



**INVITATION TO BID
No. 200848**

**DEMOLITION AND STRUCTURAL STABILIZATION
OF THE HISTORIC TAYLOR HOTEL**

**FOR THE
DEPARTMENT OF PUBLIC SERVICES**

Project Manual
Contract Documents
Specifications

August 2012

City of Winchester
Demolition and Structural Stabilization of the Historic Taylor Hotel
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INVITATION TO BID

August 7, 2012

Demolition and Structural Stabilization of the Historic Taylor Hotel

ITB # 200848

The City of Winchester is submitting this Invitation to Bid to establish a contract with qualified Contractors furnishing all labor, equipment, transportation and materials necessary for the following project:

Demolition and Structural Stabilization of the Historic Taylor Hotel

Work includes selective demolition of specific areas of the Historic Taylor Hotel located on the Loudoun Street Pedestrian Mall in Old Town Winchester, salvaging select materials for future use in the building renovation, disposal of materials, and the structural stabilization of the structures that will be renovated in the near future.

A **mandatory** pre-bid meeting (including a site walk-thru at the conclusion of the meeting) will be held on **August 21, 2012, at 10:00 AM** in the 4th Floor Exhibit Hall at City Hall located at 15 N. Cameron Street, Winchester, VA 22601. Due to the importance of all respondents having a clear understanding of the specifications/scope of work and requirements of this solicitation, attendance at this conference will be a prerequisite for submitting a proposal. Proposals will only be accepted from those respondents who are represented at this pre-bid meeting. Attendance at the meeting will be evidenced by the representative's signature on the attendance roster. No one will be admitted after 10:05 A.M. (local time).

Contract Specifications may be obtained from the below address and all bids shall be received at:

City of Winchester, Virginia
Finance Department - Purchasing Division
Rouss City Hall, 1st Floor – Room 106
15 North Cameron Street
Winchester, Virginia 22601
Telephone (540) 667-2378

The contract documents and drawings may be downloaded at no cost from the City's website at:
<http://www.winchesterva.gov/purchasing/itbrfp.php>

Any questions regarding the contract documents or drawings shall be sent **in writing via e-mail** to:
Perry Eisenach: peisenach@ci.winchester.va.us
Steve Corbit: scorbit@ci.winchester.va.us

Bid prices shall be made on the blank Bid Form provided herein. Bids shall be delivered to the above address on or before **2:00 p.m. (local time) on September 11, 2012**, at which time the bids shall be publicly read aloud.

Bids will be received only from contractors who are registered in the Commonwealth of Virginia. **Bidders shall indicate on the outside of the envelope containing the Bid their current Virginia Contractor's Registration Number. Bids without this information on the outside of the envelope shall be non-responsive.**

Each Bid shall be accompanied by complete response to the Contractor Qualification Data Sheet. The successful bidder shall meet the minimum qualifications specified in the Contractor Qualification Data Sheet. A bid from a bidder that does not meet the minimum qualifications specified in the Contractor Qualification Data Sheet, as determined by the City, shall be non-responsive.

Each Bid shall also be accompanied by a satisfactory Bid Guarantee in the amount of 5% of the bid, in the form of a certified or cashier's check drawn on a bank chartered under the laws of the Commonwealth of Virginia; payable to the Treasurer of the City of Winchester, or a Bid Bond, as a guarantee that the bidder will within fifteen (15) days after the date of the award of the Contract, execute an agreement and file insurance as required by the Contract Documents if his proposal is accepted. If the successful bidder fails to execute and file the agreement and insurance, the amount of the Bid Guarantee shall be forfeited. Bids without a satisfactory Bid Guarantee shall be rejected.

Performance and Payment Bonds will be required of the successful bidder, each in an amount equal to one hundred (100) percent of the amount of the Contract, conditioned upon the faithful performance of the Contract and to the payment in full to all persons furnishing labor, materials, equipment, etc., for and in connection with the work to be performed under the contract.

Bidder desiring to withdraw his bid after the bid opening procedure, shall give notice in writing of his claim of right to withdraw his bid within two (2) business days after the conclusion of the bid opening procedure. Bidder shall submit to the City his original work papers; documents and materials used in preparation of the bid sought to be withdrawn. Bidder withdrawing his bid that does not meet these requirements shall forfeit their bid bond.

The City of Winchester reserves the right to reject any proposal for failure to comply with all requirements of this notice or any of the Contract Documents; however, it may waive any minor defects or informalities at its discretion. The City further reserves the right to reject any and all proposals or to award a contract that in its judgment is in the best interest of the City.

CITY OF WINCHESTER, VIRGINIA

BY: Steve Corbit, Purchasing Agent

Demolition and Structural Stabilization of the Historic Taylor Hotel

INSTRUCTIONS TO BIDDERS

1. **OWNER AND ENGINEER:**

The Owner is the City of Winchester, Virginia, which shall be represented by the Director of Public Services or his designee who shall perform the duties of the Engineer. Telephone: Department of Public Services, (540) 667-1815, extension 1407.

2. **COPIES OF CONTRACT DOCUMENTS:**

- 2.01 Bidding Documents may be examined and downloaded from the City's website at <http://www.winchesterva.gov/purchasing/itbrfp.php> at no charge.

City of Winchester, Virginia
Finance Department - Purchasing Division
Rouss City Hall, 1st Floor – Room 106
15 North Cameron Street
Winchester, Virginia 22601
Telephone: (540) 667-2378

- 2.02 Complete set of Bidding Documents shall be used in preparing bids; neither the Owner nor the Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents. Owner and Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining bids on the Work and do not confer a license or grant for any other use.

3. **EXAMINATION OF CONTRACT DOCUMENTS AND SITE:**

- 3.01 Before submitting a bid, each bidder must examine the Contract Documents thoroughly, visit the site to familiarize himself with local conditions that may in any manner affect cost, progress, or performance of the work, familiarize himself with federal, state, and local laws, ordinances, rules, and regulations that may in any manner affect cost, progress, or performance of the work; and study and carefully correlate bidder's observations with the Contract Documents.
- 3.02 Before submitting his bid, each bidder will, at his own expense, make such additional investigations and tests as the bidder may deem necessary to determine his bid for performance of the work in accordance with time and other terms and conditions of the Contract Documents. The Contractor shall be responsible for taking his own borings or making any investigations he requires to establish subsurface conditions in the area of this Contract. The City does not assume any responsibility for the subsurface conditions which may be encountered. On request, Owner will provide each bidder access to the site

to conduct such investigations.

- 3.03 The submission of a bid will constitute an incontrovertible representation by the bidder that he has examined the site and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions of the Work.
- 3.04 It is understood and agreed by the bidder that the estimate of quantities (if provided) are approximate, and are presented in order to obtain unit prices and approximate amount of the Contract. The Contractor shall make no claim against the City because of any estimate, tests or representations made by any officer or agent of the City, which may prove to be in any respect erroneous.
- 3.05 Scope of the work is as specified herein. The Owner, however, reserves the right to make adjustments to the scope of the work. Such adjustments shall be accomplished by appropriate Change Orders.

4. **SPECIFICATIONS:**

The technical specifications for the project are provided within this contract document. If not specifically addressed within these technical specifications provided, the following specifications shall apply:

- 1. 2009 Virginia Uniform Statewide Building Code
- 2. VDOT 2007 Road & Bridge Specifications
- 3. City of Winchester Standards Manual

5. **INTERPRETATIONS:**

All questions about the discrepancies or ambiguities in the Contract Documents prior to the bid opening shall be submitted in writing via e-mail to the following:

Perry Eisenach: peisenach@ci.winchester.va.us

Steve Corbit: scorbit@ci.winchester.va.us

Replies to questions will be issued by Addenda mailed or delivered to all parties recorded by the Purchasing Agent as having received the Bidding Documents or by posting on a Question and Answer Bulletin Board posted at the following location:

<http://www.winchesterva.gov/purchasing/itbrfp.php>

Questions received less than five (5) calendar days prior to the date for opening of bids may not be answered. Only questions answered by formal written Addenda or in writing on the Question and Answer Bulletin Board will be binding.

6. **REQUIRED BOND - BID GUARANTEE:**

6.01 Bid Guarantee shall be made payable to Owner, in an amount of five percent (5%) of the bidder's maximum bid price and in a form of a certified or cashier's check drawn on a bank chartered under the laws of the Commonwealth of Virginia; payable to the Treasurer, City of Winchester, or a Bid Bond issued by a surety having registered resident agents in Virginia.

6.02 The Bid Guarantee of the successful bidder will be retained until such bidder has executed the Agreement and furnished the required Contract Security, whereupon it will be returned. If the successful bidder fails to execute the agreement and furnish the required Contract Security within fifteen (15) calendar days of the Notice of Award, Owner may annul Notice of Award and the Bid Guarantee of the bidder will be forfeited.

7. **REQUIRED BONDS – PAYMENT AND PERFORMANCE:**

Performance and Payment Bonds will be required of the Successful bidder, each in an amount equal to one hundred percent (100%) of the amount of the Contract, conditioned upon the faithful performance of the Contract and to the payment in full to all persons furnishing labor, materials, equipment, etc., for and in connection with the work to be performed under the Contract.

8. **CONTRACT TIME:**

Contractor agrees that all work shall be completed during the period beginning on October 8, 2012 and ending on December 31, 2012.

Owner and Contractor recognize that the time is of essence in this Contract, and if the work is not completed within the specified times outlined above, plus any extensions allowed, then the Contractor shall pay, as liquidated damages, \$1,500.00 for each calendar day that expires after the specified completion date.

9. **PAYMENT PROCEDURE:**

9.01 The basis for payment shall be the actual percentage of work completed, as determined in the field by the Engineer.

9.02 An amount equal to five percent (5%) of each progress payment shall be held from each payment as retainage.

10. **SUBCONTRACTORS:**

10.01 The apparent successful bidder and any other bidder so requested, will within seven (7) days after the day of bid opening submit to Owner a list of all subcontractors and other persons and organizations, including those who are to furnish the principal items of

material and equipment, proposed for the work. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of qualification for each such subcontractor, person, and organization. If Owner or Engineer, after due investigation has reasonable objection to any proposed subcontractor, other person or organization, either may before giving the Notice of Award request the apparent successful bidder to submit an acceptable substitute without an increase in Bid price. If the apparent successful bidder declines to make any such substitution, the Contract shall not be awarded to such bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Bond. Any subcontractor, other person, or organization so listed and to whom Owner or Engineer does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer.

- 10.02 No Contractor shall be required to employ any subcontractor, other person, or organization against whom he has reasonable objection.
- 11. **SUBSTITUTE MATERIAL AND EQUIPMENT**
- 11.01 Whenever it is indicated in the Contract Documents that a substitute or "or equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered until after the Effective Date of the Contract Agreement. The procedure for submittal of any such application by Contractor and consideration by Engineer is set forth in the General Conditions.
- 12. **PREPARATION OF BID:**
- 12.01 The Bid Form is included in these Specifications, and may not be altered in any way. Additional copies may be obtained from the City of Winchester.
- 12.02 Bid Forms must be completed in ink or by typewriter. The Total Base Bid price must be stated in words and numerals; in case of conflict, words will take precedence.
- 12.03 A bidder shall execute his Bid as stated below:
 - A. A Bid by an individual shall show his name and official address.
 - B. A Bid by a partnership must be executed in the partnership name and signed by a partner. His title must appear under his signature and the official address of the partnership shall be shown.
 - C. A Bid by a corporation must be executed in the corporate name by an officer of the corporation and must be accompanied by a certified copy of the resolution of the board of directors authorizing the person signing the Bid to do so on behalf on the corporation. The corporate seal shall be affixed and attested by the secretary. The state of incorporation and the official corporate address shall be shown.
 - D. All names must be printed below the signature.
 - E. Contractor's license or registration number shall be entered in the space provided on the Bid Form.

- 12.04 Bidder shall make acknowledgement on the Bid Form of receipt of all Addenda, the numbers of which shall be filled in the Bid Form.
13. **SUBMISSION OF BIDS:**
- 13.01 Bids shall be submitted at the time and place indicated in the Invitation to Bid and shall be included in an opaque sealed envelope, along with the Bid Bond, Non-collusion Affidavit, and other required documents. The sealed envelope shall indicate the Project Title, name and address of the bidder, and State Registration No. of the bidder. If the bid is sent through the mail, or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "**BID ENCLOSED**" on the face thereof.
- 13.02 Timely delivery of the Bid shall be the sole responsibility of the Bidder. Bids must be received not later than the time and date stated in the Invitation to Bid. Bids by telephone, facsimile or other forms shall not be accepted.
14. **MODIFICATION AND WITHDRAWAL OF BIDS:**
- 14.01 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a bid must be executed) and delivered to the place where bids are to be submitted at any time prior to opening of the bids. The request for withdrawal or modification must be in writing and signed by a person duly authorized to do so.
- 14.02 No bidder may withdraw his bid within thirty (30) calendar days after the actual date of the bid opening, except as allowed by the Code of the City of Winchester, Virginia, Section 21-43(a), which states "the Bidder shall give notice in writing of his claim of rights to withdraw this bid within two (2) business days after the conclusion of the bid opening procedure". Bidder shall submit to the Owner his original work papers, documents and materials used in preparation of his bid sought to be withdrawn.
15. **OPENING OF BIDS:**
- 15.01 Bids shall be opened publicly, and will be read aloud at the time and location indicated on the Invitation to Bid. An abstract of the amounts of the Bids shall be made available after the opening of bids.
- 15.02 All bids shall remain open for sixty (60) days after the day of the bid opening, but Owner may, in his sole discretion, release any bid and return the Bid Bond prior to that date.
- AWARD OF CONTRACT:**
- 15.03 Owner reserves the right to reject any and all bids, to waive any and all informalities and to negotiate Contract terms with the successful bidder, and the right to disregard all nonconforming, nonresponsive, or conditional bids. Discrepancies between words and figures shall be resolved in favor of words. Discrepancies between indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct

sum.

- 15.04 In evaluating bids, Owner will consider the qualifications of the bidders, whether or not the bids comply with the prescribed requirements, and alternates and unit prices if requested in the Bid Form. Owner may consider the qualifications and experience of subcontractors and other persons and organizations proposed for the work.
- 15.05 Owner may conduct such investigations as he deems necessary to assist in the evaluation of any bid and to establish the responsibility, qualifications, and financial ability of the bidders, proposed subcontractors and other persons and organizations, to do the work in accordance with the Contract Documents and to the Owner's satisfaction within the prescribed time.
- 15.06 Owner reserves the right to reject the bid of any bidder who does not pass any such evaluations to Owner's satisfaction.
- 15.07 If the Contract is to be awarded, it will be awarded to the lowest responsive and responsible bidder whose evaluation by the Owner indicates that the award will be in the best interest of the Project and the City. Discounts for prompt payment, liquidated damages, and cash incentives will not be part of the award.
16. **SIGNING OF CONTRACT:**
Owner shall give Notice of Award to the successful bidder accompanied by at least three (3) unsigned counterparts of the Contract and all other Contract Documents. Within fifteen (15) days thereafter, Contractor shall sign and deliver at least three (3) counterparts of the Contract to the Owner with all other Contract Documents attached. Within ten (10) days thereafter, Owner will deliver all fully signed counterparts to Contractor. Engineer will identify those portions of the Contract Documents not fully signed by Owner and Contractor and shall ensure that all parties appropriately execute all required portions of the contract immediately.

*** * * END OF SECTION * * ***

Demolition and Structural Stabilization of the Historic Taylor Hotel
CONTRACTOR QUALIFICATION DATA SHEET

1. General:

In order to be considered for selection, Bidders shall submit the following information as part of your response to this solicitation. Failure to complete and provide this data sheet and the requested information may result in a non-responsive bid.

1.1 Proprietary Information

All source code, executables, user data, materials, meeting minutes, progress reports and documentation shall be submitted to the City and shall belong exclusively to the City, and shall be subject to public inspection in accordance with the Virginia Freedom of Information Act. Trade secrets or proprietary information submitted by a Bidder shall not be subject to public disclosure under the Virginia Freedom of Information Act provided the Bidder invokes the protections of Section 2.2-4342F of the Virginia Public Procurement Act, which provides that:

“Trade secrets or proprietary information submitted by a Bidder, or subsequently the Contractor, in connection with a procurement transaction, shall not be subject to public disclosure under the Virginia Freedom of Information Act. However, the Bidder or Contractor must invoke the protection of this Section prior to, or upon submission of the data or other materials. The Contractor must identify the data or other materials to be protected and justify in writing the explicit reasons that such protection is necessary. Failure to mark the data or other materials as proprietary or otherwise classified, will result in the data or other materials being released to Bidders or to the public as provided in the Virginia Freedom of Information Act.”

The classification of the entire proposal document and total bid price as proprietary or trade secrets is not acceptable.

1.2 Incurred Cost

The Bidder is responsible for all costs of proposal preparation. The City of Winchester is not liable for any costs incurred in response to the ITB.

1.3 Contractor Qualifications:

Proposals should be as thorough and detailed as possible so that City may properly evaluate your capabilities to provide the required services. Bidders shall submit responses for the following items within your Bid response.

1.3.1 General

1.3.1.1 How many years has your organization been in business as a General Contractor?

1.3.1.2 How many years has your organization been in business under its present name?

1.3.1.3 What is your organization’s Virginia Contractors Registration Number?

1.3.1.4 List the states and categories of construction in which your organization is legally qualified to do business?

1.3.1.5 *Qualifications:* Provide a description of the organizational structure and history. Identify key personnel to be assigned to this project and their relevant experience in utility and infrastructure replacement.

1.3.1.6 Debarment/Suspension List: Firms shall confirm in writing that they are not currently on any debarment or suspension list of any local, state or federal government. Any firm found to be listed shall be rejected as non-responsive.

1.3.2 Construction-Specific

1.3.2.1 Quality Management Plan and Timeliness Tracking Plan

The Contractor shall provide a detailed description of all internal control methods used to insure quality throughout all of the contractor's operations, as well as the system or method that will be employed to track, monitor, and ensure compliance with all time line requirements of this ITB.

1.4.2.2 Past Project Experience

The Contractor shall provide a minimum of three (3) references that are similar in nature to the City's proposed construction project. The submitted projects shall have been initiated or completed in the past five (5) years and exceed \$400,000 of total value. In the response, the Contractor shall provide a one to two paragraph description of the work performed, and the name, address, telephone number, and email address of the owner's representative.

The Contractor shall include in this list any contract(s) in the past five (5) years that were terminated and shall provide the reason for termination.

1.4.2.3 Management of Simultaneous Contracts

The Contractor shall list all the name of projects, owner's name and address, percent complete and scheduled completion of the major projects in progress on the date of proposal submittal and the estimated contract amount of all executed contracts that will be underway at the same time as the City's proposed construction project. The contractor shall also state how the contract needs of the City will be met with the available company resources considering that these other contracts will be underway simultaneously.

1.4.3 Financial Statements

Please submit your company's audited annual financial statement and/or Dunn & Bradstreet report for the last two (2) years.

1.4.4 Subcontracting Restrictions

The Prime Contractor shall perform or exercise responsibility for this contract with its own work force for at least 50% of the total dollar value of the contract. Identify the sub-Contractor(s) who will do work on this project and the amount of work that each is projected to perform.

1.4.5 Certification

An authorized representative of the company shall sign the Technical Proposal, which shall include the following statement above the name/signature/date line:

I certify that the information provided in the Contractor Qualifications is complete and accurate to the best of my knowledge.

Authorized Signature

Title

Date

BID FORM
Demolition and Structural Stabilization of the Historic Taylor Hotel
ITB# 200848

This Bid is submitted to:

City of Winchester, Virginia
Finance Department - Purchasing Division
Rouss City Hall, 1st Floor
15 North Cameron Street
Winchester, Virginia 22601

In submitting this Bid, bidder acknowledges that the bidder has examined copies of the following Contract Documents:

BIDDING DOCUMENTS

- Invitation to Bid
- Instructions to Bidders
- Contractor Qualification Data Sheet
- Bid Form
- Bid Bond
- Non-Collusion Affidavit
- Contract
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- Unit Masonry

- Structural Steel Framing
- Metal Framing
- Rough Carpentry
- Gypsum Sheathing
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- Sheet Metal Flashing and Trim
- Conductor Heads and Downspouts
- Joint Sealers
- Roof Windows
- Painting and Coating
- Trenching and Backfilling
- Utility Pipe and Materials
- Asbestos Inspection Report

DRAWINGS

ADDENDA:

<u>NUMBER</u>	<u>DESCRIPTION</u>	<u>DATE</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Receipt of all of above is hereby acknowledged.

CONTRACTOR: _____

BY (SIGNATURE): _____

NAME AND TITLE: _____

DATE: _____

BID ITEMS/QUANTITIES

- (a) The Contractor shall provide all unit prices or lump sum prices for all bid items on the Bid Form herein. **If a unit price or lump sum price is omitted or left blank the bid and bidder shall be non-responsive.** The bid forms designate which prices are for *Install* only work, complete and in place, (i.e. assumes equipment and/ or materials will be supplied by the City). All other bid prices are for Furnish and Install work, complete and in place.

- (b) The quantities shown for unit bid items are based upon the best information available at time of preparation of these bid documents, and are established for the purpose of obtaining a bid price. No adjustments to the bid prices based on changes to quantities will be considered. All bid prices will be held throughout the duration of the contract regardless of any increase or decrease in bid quantity.
- (c) Emergency work shall be negotiated with a maximum allowable amount of 50% over the bid price by item. This excludes all lump sum bid items.
- (d) All other bid items not listed or described in the Contract Documents will be negotiated between the City and the Contractor before the time of need. Once a negotiated price is established, it will be used for the remainder of the contract.

The undersigned Bidder proposes to complete all work in accordance with the Contract Documents for the following unit prices:

City of Winchester
Demolition and Structural Stabilization of the Historic Taylor Hotel
BID TABLE

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	TOTAL COST
1	Demolition and Structural Stabilization of the Historic Hotel. Includes all work as shown on the Drawings including material salvage and material disposal.	1	Lump Sum	
TOTAL FOR ALL WORK – BASE BID				

TOTAL BASE BID: \$ _____

IN WORDS:

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	TOTAL COST
2	Optional Item – Construct CMU Wall (as shown on Sheets A-1.1 and A-2.1 of the Drawings)	1	Lump Sum	
TOTAL FOR OPTIONAL ADD-ON WORK				

CONTRACTOR: _____

BY: (SIGNATURE) _____

NAME AND TITLE: _____

DATE: _____

ADDRESS: _____

TELEPHONE: _____

CURRENT VIRGINIA CONTRACTOR REGISTRATION NUMBER: _____

NOTE: REQUIRED BID GUARANTEE MUST BE ENCLOSED WITH THIS BID PROPOSAL.

BID BOND

KNOW ALL MEN BY THESE PRESENTS THAT _____

(Here insert the name & address or legal title of the Contractor)

as Principal, hereinafter called the Contractor and _____

(Here insert the legal title of the Surety)

as Surety, hereinafter called the Surety, are held and firmly bound unto the City of Winchester, Virginia, as obligee, hereinafter called the Owner, in the amount of

(Dollars)

(\$_____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a Bid for:

ITB #200848 – Demolition and Structural Stabilization of the Historic Taylor Hotel

in accordance with Drawing and Specifications prepared by the Public Services Department, City of Winchester, Virginia.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Obligee shall accept the Bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with terms of such Bid, and give such bonds as specified in the Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bonds, if the Principal shall pay the Obligee the difference not to exceed the penalty hereof between the amount specified in said Bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said Bid, then this obligation shall be null and void, otherwise to remain in

full force and effect.

SIGNED AND SEALED THIS _____ DAY OF _____ A.D., 2012.

PRINCIPAL

TITLE

WITNESS

SURETY

TITLE

WITNESS

NON-COLLUSION AFFIDAVIT

STATE OF VIRGINIA

Ss: ITB #200848 – Demolition and Structural Stabilization of the Historic Taylor Hotel

CITY OF WINCHESTER, COUNTY of FREDERICK

I, _____ of the City of _____

In the County of _____ and the State of _____

Of full age, being duly sworn according to law or my oath depose and say that:

I am _____ of the firm of _____

_____, of the Company making the Bid for the above named project, and that I executed the said Bid with full authority to do so; that the Company has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bid preparation in connection with the above named project; and that all statements contained in said Bid and in this affidavit are true and correct, and made with full knowledge that the City of Winchester relies upon the truth of the statements contained in said Bid and in the statements contained in this affidavit in awarding the Contract for said Project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by:

(Name of Contractor)

Subscribed and sworn to _____
(Type or print name of applicant under signature)

before me this _____ day of _____, 20____.

(Notary Public)

of _____

My commission expires: _____, 20____.

**Demolition and Structural Stabilization of the Historic Taylor Hotel
ITB # 200848**

CONTRACT

THIS CONTRACT, made and entered into in triplicate originals this ____ day of _____, **2012**, by and between the **City of Winchester, Virginia**, Party of the First Part, hereinafter referred to as the **"Owner"** and _____, Party of the Second Part, hereinafter referred to as the **"Contractor"**.

WITNESSETH, That the Contractor and the City for the consideration stated herein agree as follows:

ARTICLE I, SCOPE OF WORK - The Contractor shall perform everything required to be performed and shall provide and furnish all of the labor, materials, necessary tools, expendable equipment and all utility and transportation services required to perform and complete in a workmanlike manner all the work required in connection with:

ITB #200848 – Demolition and Structural Stabilization of the Historic Taylor Hotel

all in strict accordance with the Contract Documents prepared by the Public Services Department, City of Winchester, Virginia. The Contractor shall do everything required by this Contract and other Documents constituting a part thereof.

ARTICLE II, CONTRACT PRICE - The City shall pay to the Contractor for the performance of this Contract, subject to any additions or deductions provided therein, in current funds, the Contract Price computed as follows:

TOTAL CONTRACT PRICE= _____

ARTICLE III. PAYMENTS - Payments are to be made to the Contractor in accordance with and subject to provisions embodied in the Documents made a part of this Contract.

ARTICLE IV. CONTRACT TIME - Work under this Contract shall commence no later than the date to begin work set forth in a written Notice to Proceed from the City or its authorized representative, to the Contractor. The Contractor shall complete all work under this Contract during the period beginning on October 8, 2012, and ending on December 31, 2012.

The Work shall be prosecuted regularly, diligently and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed by and between the Contractor and the City that the time for the

completion of the Work described herein is a reasonable time for the completion of the same.

ARTICLE V. ENGINEER – The project has been designed by the City of Winchester Public Services Department, Engineering Division, 15 N. Cameron Street, Winchester, VA 22601, who is hereinafter called ENGINEER and who is to act as OWNER's representative, assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE VI. HOLD HARMLESS CLAUSE - Bids shall provide that during the term of the Contract, including warranty period, for the successful bidder indemnifying, defending, and holding harmless the City, its officers, employees, agent and representatives thereof from all suits, actions, claims of any kind, including attorney's fees, brought on account of any personal injuries, damages, or violation of rights sustained by any person or property in consequence of any neglect in safeguarding contract work, or on account of any act or omission by the Contractor or his employees, or from any claims or amounts arising from violation of any law, bylaw, ordinance, regulation or decree. The Contractor agrees that this clause shall include claims involving infringement of patent or copyrights.

ARTICLE VII. LIQUIDATED DAMAGES - It is hereby fully understood and agreed that the time is of essence in the performance of this Contract. For each and every calendar day that elapses between the Contract Completion Dates specified in Article IV of this Contract and the date on which the work covered by such Contract is actually completed, including the removal of all plant and obstructions from the site of such work, the Contractor shall pay to the City as liquidated damages and not as a penalty, the sum of ONE THOUSAND FIVE HUNDRED DOLLARS PER CALENDAR DAY (\$1,500.00). The total amount so payable by the Contractor as liquidated damages either may be deducted from any moneys due or payable to the Contractor by the City or so much thereof as is not so deducted shall be chargeable to and will be payable promptly by such Contractor and his Surety, or either of them, to the City. Such liquidated damages shall be payable to reimburse or compensate, at least in part, the City for (1) the administration of the work covered by such Contract and any other contract or contracts beyond the Contract Completion Date, including the additional expense to the City for supervision, inspection, and superintendence; (2) expenditures resulting from the inability of the City (and the general public) to use the improvement being constructed from and after such Contract Completion Date until the actual date of completion; (3) other miscellaneous obligations and expenditures incurred by the City directly as a result of the failure to complete the Work covered by such Contract on or before the Contract Completion Date.

ARTICLE VIII. COMPONENT PARTS OF THIS CONTRACT - That this Contract consists of the following component parts which are made a part of this agreement and

Contract as fully and absolutely as if they were set out in detail in this Contract:

BIDDING DOCUMENTS

- Invitation to Bid
- Instructions to Bidders
- Contractor Qualification Data Sheet
- Bid Form
- Bid Bond
- Non-Collusion Affidavit
- Contract
- Performance Bond
- Labor and Material Payment Bond
- Notice of Award
- Notice to Proceed
- City of Winchester Required General Terms and Conditions
- General Conditions
- Supplement to General Conditions
- Special Terms and Conditions
- Federal Provisions
- Davis-Bacon Wage Rates

TECHNICAL SPECIFICATIONS

- Scope of Work – Sequence of Construction
- Traffic Control
- Demolition/Removal/Salvage
- Disposal of Materials
- Allaying Dust
- Concrete Forming and Accessories
- Concrete Reinforcing
- Cast-in-Place Concrete
- Unit Masonry
- Structural Steel Framing
- Metal Framing
- Rough Carpentry
- Gypsum Sheathing
- Bituminous Damp-Proofing
- Thermal Insulation
- Exterior Insulation and Finish System
- Standing-Seam Metal Roof Panels
- Sheet Metal Flashing and Trim
- Conductor Heads and Downspouts
- Joint Sealers
- Roof Windows
- Painting and Coating

- Trenching and Backfilling
- Utility Pipe and Materials
- Asbestos Inspection Report

DRAWINGS

ADDENDA:

Above components are complimentary and what is called for by one shall be binding as if called by all.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals the date first written above.

CONTRACTOR:

CITY OF WINCHESTER, VIRGINIA:

CITY MANAGER

NAME AND TITLE

ATTEST

ATTEST

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____

_____ as Principal, hereinafter

called Contractor, and _____

Surety Company, with General Offices in _____

_____, a corporation organized under the laws of the State of _____ and authorized to transact business in the State of Virginia as Surety, hereinafter called Surety, are held and firmly bound onto the City of Winchester, Virginia, hereinafter called Owner, in the penal sum _____ (_____) Dollars, lawful money of the United States, for the payment of which sum, will and truly be made, the Said Contractor and Surety bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

Signed, sealed and delivered this _____ day of _____, 2012.

WHEREAS, the above named and bounded Contractor has entered into a written contract with the Owner, dated _____, 2012 for:

Demolition and Structural Stabilization of the Historic Taylor Hotel

in accordance with the Drawings and Specifications prepared by the Public Services Department, City of Winchester, Virginia, which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the Contract in accordance with its terms and conditions, or

2. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of contract price," as used in this paragraph, shall mean the total amount payable by the Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

Signed and sealed this _____ day of _____ 2012.

PRINCIPAL

SURETY

TITLE

TITLE

WITNESS

WITNESS

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____

_____ as Principal, hereinafter

called Contractor, and _____

Surety Company, with General Offices in _____

_____, a corporation organized under the laws of the State of _____ and authorized to transact business in the State of Virginia as Surety, hereinafter called Surety, are held and firmly bound unto the City of Winchester, Virginia, hereinafter called Owner, in the penal sum

(_____)Dollars, lawful money of the United States, for the payment of which sum, will and truly be made, the Said Contractor and Surety bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

Signed, sealed and delivered this _____ day of _____, 2012.

WHEREAS, the above named and bounded Contractor has entered into a written contract with the Owner, dated _____, 2012 for:

Demolition and Structural Stabilization of the Historic Taylor Hotel

in accordance with the Drawings and Specifications prepared by the Engineering Department, City of Winchester, Virginia, which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Contractor shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the

last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgement for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:
 - a) Unless claimant, other than the one having a direct Contract with the Principal, shall have given written notice to any two of the following: the Principal, the Owner, or the Surety above named, within (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage paid, in an envelope addressed to the Principal, Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
 - b) After the expiration of one (1) year following the date on which Principal ceased work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 - c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.
4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanic's liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

Signed and sealed this _____ day of _____, 2012.

PRINCIPAL

TITLE

WITNESS

SURETY

TITLE

WITNESS

NOTICE OF AWARD

DATE:

TO:

PROJECT TITLE: Demolition and Structural Stabilization of the Historic Taylor Hotel

Gentlemen:

Your Bid, dated _____, for the above Project has been considered and you are the apparent successful bidder. You are hereby notified that you have been awarded a Contract for :

The Contract Price of your contract is \$_____.

Three copies each of the proposed Contract between Owner and Contractor and the Contract Documents accompany this Notice of Award.

You must comply with the following conditions precedent within fifteen days of the date of this Notice of Award, that is by _____.

1. You must deliver to the Owner three (3) fully executed counterparts of the Contract between Owner and Contractor including all the Contract Documents. This includes the sets of Plans and Specifications. Each of the Contract Documents must bear your signature on the Index page of the Plans and on the Specification Table of Contents page.
2. You must deliver with the executed Contract, Payment and Performance Bonds, and required Certificates of Insurance. The Certificate of Insurance must identify the above referenced project as the project for which insurance is being provided. *Additionally, it must indicate the City of Winchester as the Certificate Holder, and name the City of Winchester as an additional insured.*

Failure to comply with these conditions within the time specified will entitle Owner to consider your bid abandoned, to annul this Notice of Award and to declare your Bid Security forfeited. After you comply with those conditions, and upon approval of the Contract Security by the Owner, the Owner will return to you one fully signed counterpart of the Contract with the Contract Documents.

City of Winchester, Virginia

By: _____
City Manager

NOTICE TO PROCEED

DATE:

TO:

Re: City of Winchester, Department of Public Services

**PROJECT TITLE: Demolition and Structural Stabilization of the Historic Taylor
Hotel**

Gentlemen:

In accordance with the Contract between Owner and Contractor, you are notified that the Time for Completion under the above Contract will commence to run on October 8, 2012. By that date, you are to start performing your obligations under the Contract Documents. In accordance with the Contract between Owner and Contractor, the Work shall be substantially completed by December 31, 2012.

City of Winchester, Virginia

By: _____
City Manager

CITY OF WINCHESTER

REQUIRED GENERAL TERMS AND CONDITIONS

- A. APPLICABLE LAWS AND COURTS
- B. ANTI-DISCRIMINATION
- C. ETHICS IN PUBLIC CONTRACTING
- E. IMMIGRATION REFORM AND CONTROL ACT OF 1986
- F. DEBARMENT STATUS
- G. ANTITRUST
- H. MANDATORY USE OF CITY FORM AND TERMS AND CONDITIONS
- I. CLARIFICATION OF TERMS
- J. PAYMENT
- K. PRECEDENCE OF TERMS
- L. QUALIFICATIONS OF BIDDERS OR OFFERORS
- M. TESTING AND INSPECTION
- N. ASSIGNMENT OF CONTRACT
- O. SEVERABILITY
- P. CHANGES TO THE CONTRACT
- Q. DEFAULT
- R. TAXES
- S. USE OF BRAND NAMES
- T. TRANSPORTATION AND PACKAGING
- U. INSURANCE
- V. ANNOUNCEMENT OF AWARD
- W. DRUG-FREE WORKPLACE
- X. NONDISCRIMINATION OF CONTRACTORS
- Y. AVAILABILITY OF FUNDS
- Z. LICENSES AND PERMITS
- AZ. TERMINATION
- BZ. HOLD HARMLESS

These General Terms and Conditions are required for all sealed and unsealed written solicitations issued by the City of Winchester for procurements that are subject to the Winchester City Code unless changed, deleted or revised by the City Attorney.

- A. **APPLICABLE LAWS AND COURTS:** This solicitation and any resulting contract shall be governed by the laws of the Commonwealth of Virginia. Any dispute arising from the performance or non-performance of this Agreement shall be resolved or otherwise litigated in the Circuit Court for the City of Winchester, Virginia or the Fourth Circuit Federal District Court in Harrisonburg, Virginia. The agency and the contractor are encouraged to resolve any issues in controversy arising from the award of the contract or any contractual dispute following the Winchester City Code, Chapter 21-61. The contractor shall comply with all applicable federal, state and local laws, rules and regulations.
- B. **ANTI-DISCRIMINATION:** By submitting their (bids/proposals), (bidders/offers) certify to the City of Winchester that they will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act and § 2.2-4311 of the *Virginia Public Procurement Act (VPPA)*. If the award is made to a faith-based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the contract on the basis of the recipient's religion, religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith-based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body. (*Code of Virginia*, § 2.2-4343.1E).

In every contract over \$10,000 the provisions in 1. and 2. below apply:

1. During the performance of this contract, the contractor agrees as follows:

- a. The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
 - b. The contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that such contractor is an equal opportunity employer.
 - c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting these requirements.
 2. The contractor will include the provisions of 1. above in every subcontract or purchase order over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.
- C. **ETHICS IN PUBLIC CONTRACTING:** By submitting their (bids/proposals), (bidders/offerors) certify that their (bids/proposals) are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other (bidder/offeror), supplier, manufacturer or subcontractor in connection with their (bid/proposal), and that they have not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.
- D. **IMMIGRATION REFORM AND CONTROL ACT OF 1986:** By submitting their (bids/proposals), (bidders/offerors) certify that they do not and will not during the performance of this contract employ illegal alien workers or otherwise violate the provisions of the federal Immigration Reform and Control Act of 1986.
- E. **DEBARMENT STATUS:** By submitting their (bids/proposals), (bidders/offerors) certify that they are not currently debarred by the Federal Government, Commonwealth of Virginia, or by any City, Town or County from submitting bids or proposals on contracts for the type of goods and/or services covered by this solicitation, nor are they an agent of any person or entity that is currently so debarred.
- F. **ANTITRUST:** By entering into a contract, the contractor conveys, sells, assigns, and transfers to the City of Winchester all rights, title and interest in and to all causes of action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by the City of Winchester under said contract.
- H. **MANDATORY USE OF CITY FORM AND TERMS AND CONDITIONS:** Failure to submit a bid/proposal on the official City form provided for that purpose may be a cause for rejection of the bid/proposal. Modification or additions to the General Terms and Conditions of the solicitation may be cause for rejection of the bid/proposal; however, the City of Winchester reserves the right to decide, on a case by case basis, in its sole discretion, whether to reject such a bid/proposal.
- I. **CLARIFICATION OF TERMS:** If any prospective (bidder/offeror) has questions about the specifications or other solicitation documents, the prospective (bidder/offeror) should contact the buyer whose name appears on the face of the solicitation no later than five working days before the due date. Any revisions to the solicitation will be made only by addendum issued by the Purchasing Agent, or designee.
- J. **PAYMENT:**
1. **To Prime Contractor:**
 - a. Invoices for items ordered, delivered and accepted shall be submitted by the contractor directly to the payment address shown on the purchase order/contract. All invoices shall show the state contract number and/or purchase order number; social security number (for individual contractors) or the federal employer identification number (for proprietorships, partnerships, and corporations).
 - b. Any payment terms requiring payment in less than 30 days will be regarded as requiring payment 30 days after invoice or delivery, whichever occurs last. This shall not affect offers of discounts for payment in less than 30 days, however.

- c. All goods or services provided under this contract or purchase order, that are to be paid for with public funds, shall be billed by the contractor at the contract price, regardless of which department is being billed.
- d. The following shall be deemed to be the date of payment: the date of postmark in all cases where payment is made by mail.
- e. **Unreasonable Charges.** Under certain emergency procurements and for most time and material purchases, final job costs cannot be accurately determined at the time orders are placed. In such cases, contractors should be put on notice that final payment in full is contingent on a determination of reasonableness with respect to all invoiced charges. Charges which appear to be unreasonable will be researched and challenged, and that portion of the invoice held in abeyance until a settlement can be reached. Upon determining that invoiced charges are not reasonable, the City of Winchester shall promptly notify the contractor, in writing, as to those charges which it considers unreasonable and the basis for the determination. A contractor may not institute legal action unless a settlement cannot be reached within thirty (30) days of notification. The provisions of this section do not relieve an agency of its prompt payment obligations with respect to those charges which are not in dispute (*Code of Virginia*, § 2.2-4363).

2. To Subcontractors:

- a. A contractor awarded a contract under this solicitation is hereby obligated:
 - (1) To pay the subcontractor(s) within seven (7) days of the contractor's receipt of payment from the City of Winchester for the proportionate share of the payment received for work performed by the subcontractor(s) under the contract; or
 - (2) To notify the agency and the subcontractor(s), in writing, of the contractor's intention to withhold payment and the reason.
- b. The contractor is obligated to pay the subcontractor(s) interest at the rate of one percent per month (unless otherwise provided under the terms of the contract) on all amounts owed by the contractor that remain unpaid seven (7) days following receipt of payment from the City of Winchester, except for amounts withheld as stated in (2) above. The date of mailing of any payment by U. S. Mail is deemed to be payment to the addressee. These provisions apply to each sub-tier contractor performing under the primary contract. A contractor's obligation to pay an interest charge to a subcontractor may not be construed to be an obligation of the City of Winchester.

K. **PRECEDENCE OF TERMS:** The following General Terms and Conditions APPLICABLE LAWS AND COURTS, ANTI-DISCRIMINATION, ETHICS IN PUBLIC CONTRACTING, IMMIGRATION REFORM AND CONTROL ACT OF 1986, DEBARMENT STATUS, ANTITRUST, MANDATORY USE OF CITY FORM AND TERMS AND CONDITIONS, CLARIFICATION OF TERMS, PAYMENT shall apply in all instances. In the event there is a conflict between any of the other General Terms and Conditions and any Special Terms and Conditions in this solicitation, the Special Terms and Conditions shall apply.

L. **QUALIFICATIONS OF (BIDDERS/OFFERORS):** The City of Winchester may make such reasonable investigations as deemed proper and necessary to determine the ability of the (bidder/offeror) to perform the services/furnish the goods and the (bidder/offeror) shall furnish to the City of Winchester all such information and data for this purpose as may be requested. The City of Winchester reserves the right to inspect (bidder's/offeror's) physical facilities prior to award to satisfy questions regarding the (bidder's/offeror's) capabilities. The City of Winchester further reserves the right to reject any (bid/proposal) if the evidence submitted by, or investigations of, such (bidder/offeror) fails to satisfy the City of Winchester that such (bidder/offeror) is properly qualified to carry out the obligations of the contract and to provide the services and/or furnish the goods contemplated therein.

M. **TESTING AND INSPECTION:** The City of Winchester reserves the right to conduct any test/inspection it may deem advisable to assure goods and services conform to the specifications.

N. **ASSIGNMENT OF CONTRACT:** A contract shall not be assignable by the contractor in whole or in part without the written consent of the City of Winchester.

O. **SEVERABILITY OF CONTRACT:** In the event that any provision shall be adjudged or decreed to be invalid, such ruling shall not invalidate the entire Agreement but shall pertain only to the provision in question and the remaining provisions shall continue to be valid, binding and in full force and effect.

P. **CHANGES TO THE CONTRACT:**

1. A public contract may include provisions for modification of the contract during performance, but no fixed-price contract may be increased by more than twenty-five percent of the amount of the contract or ten thousand dollars (\$10,000), whichever is greater, without the advance written approval of the City Council. In no event may the amount of any contract, without adequate consideration, be increased for any purpose, including, but not limited to, relief of an offeror from the consequences of an error in its bid or offer (Winchester City Code 21-44).
2. Changes can be made to the contract in any of the following ways:
 - a. The parties may agree in writing to modify the scope of the contract. An increase or decrease in the price of the contract resulting from such modification shall be agreed to by the parties as a part of their written agreement to modify the scope of the contract.
 - b. The City of Winchester may order changes within the general scope of the contract at any time by written notice to the contractor. Changes within the scope of the contract include, but are not limited to, things such as services to be performed, the method of packing or shipment, and the place of delivery or installation. The contractor shall comply with the notice upon receipt. The contractor shall be compensated for any additional costs incurred as the result of such order and shall give the City of Winchester a credit for any savings. Said compensation shall be determined by one of the following methods:
 1. By mutual agreement between the parties in writing; or
 2. By agreeing upon a unit price or using a unit price set forth in the contract, if the work to be done can be expressed in units, and the contractor accounts for the number of units of work performed, subject to the City of Winchester's right to audit the contractor's records and/or to determine the correct number of units independently; or
 3. By ordering the contractor to proceed with the work and keep a record of all costs incurred and savings realized. A markup for overhead and profit may be allowed if provided by the contract. The same markup shall be used for determining a decrease in price as the result of savings realized. The contractor shall present the City of Winchester with all vouchers and records of expenses incurred and savings realized. The City of Winchester shall have the right to audit the records of the contractor as it deems necessary to determine costs or savings. Any claim for an adjustment in price under this provision must be asserted by written notice to the City of Winchester within thirty (30) days from the date of receipt of the written order from the City of Winchester. If the parties fail to agree on an amount of adjustment, the question of an increase or decrease in the contract price or time for performance shall be resolved in accordance with the procedures for resolving disputes provided by the Disputes Clause of this contract or, if there is none, in accordance with the disputes provisions of the City of Winchester Code. Neither the existence of a claim nor a dispute resolution process, litigation or any other provision of this contract shall excuse the contractor from promptly complying with the changes ordered by the City of Winchester or with the performance of the contract generally.

Q. **DEFAULT:** In case of failure to deliver goods or services in accordance with the contract terms and conditions, the City of Winchester, after due oral or written notice, may procure them from other sources and hold the contractor responsible for any resulting additional purchase and administrative costs. This remedy shall be in addition to any other remedies which the City of Winchester may have.

R. **TAXES:** Sales to the City of Winchester are normally exempt from State sales tax. State sales and use tax certificates of exemption, Form ST-12, will be issued upon request.

S. **USE OF BRAND NAMES:** Unless otherwise provided in this solicitation, the name of a certain brand, make or manufacturer does not restrict (bidders/offerors) to the specific brand, make or manufacturer named, but conveys the general style, type, character, and quality of the article desired. Any article which the public body, in its sole discretion, determines to be the equal of that specified, considering quality, workmanship, economy of operation, and suitability for the purpose intended, shall be accepted. The (bidder/offeror) is responsible to clearly and specifically identify the product being offered and to provide sufficient descriptive literature, catalog cuts and technical detail to enable the City of Winchester to determine if the product offered meets the requirements of the solicitation. This is required even if offering the exact brand, make or manufacturer specified. Normally in competitive sealed bidding only the information furnished with the bid will be considered in the evaluation. Failure to furnish adequate data for evaluation purposes may result in declaring a bid nonresponsive. Unless the (bidder/offeror) clearly indicates in its (bid/proposal) that the

product offered is an equal product, such (bid/proposal) will be considered to offer the brand name product referenced in the solicitation.

- T. **TRANSPORTATION AND PACKAGING:** By submitting their (bids/proposals), all (bidders/offerors) certify and warrant that the price offered for FOB destination includes only the actual freight rate costs at the lowest and best rate and is based upon the actual weight of the goods to be shipped. Except as otherwise specified herein, standard commercial packaging, packing and shipping containers shall be used. All shipping containers shall be legibly marked or labeled on the outside with purchase order number, commodity description, and quantity.
- U. **INSURANCE:** By signing and submitting a bid or proposal under this solicitation, the bidder or offeror certifies that if awarded the contract, it will have the following insurance coverage at the time the contract is awarded. For construction contracts, if any subcontractors are involved, the subcontractor will have workers' compensation insurance in accordance with §§ 2.2-4332 and 65.2-800 et seq. of the *Code of Virginia*. The bidder or offeror further certifies that the contractor and any subcontractors will maintain these insurance coverage during the entire term of the contract and that all insurance coverage will be provided by insurance companies authorized to sell insurance in Virginia by the Virginia State Corporation Commission.

MINIMUM INSURANCE COVERAGES AND LIMITS REQUIRED FOR MOST CONTRACTS:

1. Workers' Compensation - Statutory requirements and benefits. Coverage is compulsory for employers of three or more employees, to include the employer. Contractors who fail to notify the City of Winchester of increases in the number of employees that change their workers' compensation requirements under the *Code of Virginia* during the course of the contract shall be in noncompliance with the contract.
2. Employer's Liability - \$100,000.
3. Commercial General Liability - **\$3,000,000 per occurrence; \$3,000,000 aggregate**. Commercial General Liability is to include bodily injury and property damage, personal injury and advertising injury, products and completed operations coverage. The City of Winchester must be named as an additional insured and so endorsed on the policy.
4. Automobile Liability - \$1,000,000 per occurrence. (Only used if motor vehicle is to be used in the contract.)

NOTE: In addition, various Professional Liability/Errors and Omissions coverages are required when soliciting those services as follows:

<u>Profession/Service</u>	<u>Limits</u>
Accounting	\$1,000,000 per occurrence, \$3,000,000 aggregate
Architecture	\$2,000,000 per occurrence, \$6,000,000 aggregate
Asbestos Design, Inspection or Abatement Contractors	\$1,000,000 per occurrence, \$3,000,000 aggregate
Health Care Practitioner (to include Dentists, Licensed Dental Hygienists, Optometrists, Registered or Licensed Practical Nurses, Pharmacists, Physicians, Podiatrists, Chiropractors, Physical Therapists, Physical Therapist Assistants, Clinical Psychologists, Clinical Social Workers, Professional Counselors, Hospitals, or Health Maintenance Organizations.)	\$1,925,000 per occurrence, \$3,000,000 aggregate
(Limits increase each July 1 through fiscal year 2008, as follows: July 1, 2008 - \$2,000,000. This complies with §8.01-581.15 of the <i>Code of Virginia</i> .)	
Insurance/Risk Management	\$1,000,000 per occurrence, \$3,000,000 aggregate
Landscape/Architecture	\$1,000,000 per occurrence, \$1,000,000 aggregate
Legal	\$1,000,000 per occurrence, \$5,000,000 aggregate
Professional Engineer	\$2,000,000 per occurrence, \$6,000,000 aggregate
Surveying	\$1,000,000 per occurrence, \$1,000,000 aggregate

- V. **ANNOUNCEMENT OF AWARD:** Upon the award or the announcement of the decision to award a contract over \$50,000, as a result of this solicitation, the Purchasing Agent will publicly post such notice on the City of Winchester's web site (www.winchesterva.gov/purchasing) for a minimum of 10 days.

- W. **DRUG-FREE WORKPLACE:** During the performance of this contract, the contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

For the purposes of this section, "*drug-free workplace*" means a site for the performance of work done in connection with a specific contract awarded to a contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

- X. **NONDISCRIMINATION OF CONTRACTORS:** A bidder, offeror, or contractor shall not be discriminated against in the solicitation or award of this contract because of race, religion, color, sex, national origin, age, disability, faith-based organizational status, any other basis prohibited by state law relating to discrimination in employment or because the bidder or offeror employs ex-offenders unless the state agency, department or institution has made a written determination that employing ex-offenders on the specific contract is not in its best interest. If the award of this contract is made to a faith-based organization and an individual, who applies for or receives goods, services, or disbursements provided pursuant to this contract objects to the religious character of the faith-based organization from which the individual receives or would receive the goods, services, or disbursements, the public body shall offer the individual, within a reasonable period of time after the date of his objection, access to equivalent goods, services, or disbursements from an alternative provider.
- Y. **AVAILABILITY OF FUNDS:** In the event that funds are not appropriated for this Contract for any City fiscal year, following the City's current year, the Contract shall terminate automatically as of the last day for which funds were appropriated without the City providing written notice to the Contractor prior to the date of termination. The City shall not consider termination of the Contract pursuant to this section default. Upon such termination, the City shall be released from any obligation to make future payments and shall not be liable for cancellation or termination charges.
- Z. **LICENSES AND PERMITS:** Contractors will be responsible for all licenses and permits, if required. Any person, firm, or corporation responding to this invitation to bid which is required to have a current and valid City of Winchester business license and, in fact, does not, will not be considered a "responsive bidder" as such term is defined by the Code of Virginia §2.2-4301, as amended. Any bid received from such an entity may be rejected, at the City's sole option, for that reason alone. In addition, the successful bidder or offeror will be required to produce affirmative evidence, satisfactory to the Purchasing Agent, or designee that it has such a license, or is not required to have such a license, prior to approval and execution of any contract to perform the work herein described.
- AZ **TERMINATION:**
- a. Termination for Convenience: The City of Winchester may terminate a contract, in whole or in part, whenever the City OF Winchester determines that such termination is in the best interest of the City of Winchester, without showing cause, upon giving ten (10) days written notice to the vendor.
 - b. Termination for Default: When the vendor has not performed or has unsatisfactorily performed the contract, the City of Winchester may terminate the contract for default. Upon termination for default, payment may be withheld at the discretion of the City of Winchester. The Vendor will be paid for work satisfactorily performed prior to termination.
- BZ **HOLD HARMLESS:** Bids/Proposal shall provide that during the term of the contract, including warranty period, for the successful bidder/offeror indemnifying, defending, and holding harmless the City, its officers, employees, agent and representatives thereof from all suits, actions, claims of any kind, including attorney's fees, brought on account of any personal injuries, damages, or violation of rights sustained by any person or property in consequence of any neglect in safeguarding contract work, or on account of any act or omission by the contractor or his employees, or from any claims or amounts arising from violation of any law, bylaw, ordinance, regulation or decree. The vendor agrees that this clause shall include claims involving infringement of patent or copyrights.

- CZ **CONFLICT OF PROVISIONS:** If there is a conflict between the City of Winchester Required General Terms and Conditions and the Standard General Conditions of the Construction Contract, the City of Winchester Required General Terms and Conditions shall govern. If there is a conflict between the City of Winchester Required General Terms and

Conditions and the Special Terms and Conditions, the Special Terms and Conditions shall govern. If there is a conflict between any Federal provisions with any other part of the Contract, the Federal provisions shall govern.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

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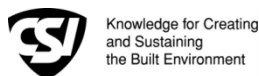
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These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor Nos. C-520 or C-525 (2002 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC Construction Documents, General and Instructions (No. C-001) (2002 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. C-800) (2002 Edition).

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*--The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of

acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and

other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*--The individual or entity named as such in the Agreement.

20. *Field Order*--A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

23. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*--The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*--A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*--A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *Schedule of Values*--A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

42. *Site*--Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

44. *Subcontractor*--An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

45. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially

complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.

49. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *Work*--The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.

B. *Intent of Certain Terms or Adjectives*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:

- a. does not conform to the Contract Documents, or
- b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents, or
- c. has been damaged prior to Engineer’s - recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project

Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 Starting the Work

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 Before Starting Construction

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 Preconstruction Conference

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other

submittals, processing Applications for Payment, and maintaining required records.

2.07 Initial Acceptance of Schedules

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations.

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, or Engineer, or any of, their Related Entities, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, Contractor

shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

2. Engineer's approval of a Shop Drawing or Sample; (Subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's consultants, including electronic media editions; or

2. reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaption by Engineer.

B. The prohibition of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party..

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 - AVAILABILITY OF LANDS;
SUBSURFACE AND PHYSICAL CONDITIONS;
HAZARDOUS ENVIRONMENTAL CONDITIONS;
REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not

Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

- b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

- a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

- b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

- c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities shall not be liable to Contractor for any claims, costs, losses, or damages (including but

not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

- a. reviewing and checking all such information and data,
- b. locating all Underground Facilities shown or indicated in the Contract Documents,
- c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and
- d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Under-

ground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06. G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

- a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

- b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible

property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-

made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, (other than caused by flood) and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under Paragraph 5.06, Owner shall, if

possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project

or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order .

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect

of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or

received from the superintendent shall be binding on Contractor.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. "*Or-Equal*" Items: If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole,

3) it has a proven record of performance and availability of responsive service; and

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times, and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will preju-

dice Contractor's achievement of Substantial Completion on time;

b) whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

c) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services;

4) and shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

B. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. Engineer's Evaluation: Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will

advise Contractor in writing of any negative determination.

D. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B Whether or not Engineer approves a substitute item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of

any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity, nor

2. shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, and Engineer,, and all other

individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. Removal of Debris During Performance of the Work: During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. Cleaning: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading Structures: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Draw-

ings or Specifications or to the acts or omissions of Owner or Engineer or , or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

D. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. Shop Drawings

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples*: Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals , any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and

safety precautions and programs incident thereto;
and

d. shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written

notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 Continuing the Work

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 Contractor's General Warranty and Guarantee

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 Indemnification

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation

acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 Delegation of Professional Design Services

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria

given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 - OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or via other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by

others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

8.06 *Insurance*

A. Owner's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on

information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment

, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the

requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all

maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to, the Resident Project Representative, if any, and assistants, if any.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph

13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim, shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract

Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,
2. approve the Claim, or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional

or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to Engineers, architects, testing laboratories,

surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such

losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A and 11.01.B.

C. Contractor's Fee: When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. Cash Allowances

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. Contingency Allowance

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of Engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If, the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
2. correct such defective Work; or
3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals

and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective

Work or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. Applications for Payments

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may

make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations on the Site of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
- b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and
- c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
- b. that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

- a. to supervise, direct, or control the Work, or
- b. for the means, methods, techniques, sequences, or procedures of construction, or the

safety precautions and programs incident thereto, or

- c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
- d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
- e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

c. there are other items entitling Owner to a set-off against the amount recommended; or

d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

14.03 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, , Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work

substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of

inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.7;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will

return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and , will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the

Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner,

terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a

Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or
2. agrees with the other party to submit the Claim to another dispute resolution process, or
3. gives written notice to the other party of their intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or
2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

1. Delete subparagraph 5.06(A), 5.06(A) Sections 1-7, and subparagraph 5.06(B)
2. Delete sentence in subparagraph 5.07(A) beginning with “All such projects shall contain provisions....”
3. Delete subparagraph 5.07(B), 5.06(B) Sections 1-2, and subparagraph 5.06(C)
4. Delete Paragraph 10.05 (Claims) and replace Paragraph 10.05 (Claims) by reference with the Winchester City Code, Section 21-61 (Contractual Disputes), as amended and where the Winchester City Code does not specify in writing the Virginia Public Procurement Act (VPPA) §2.2-4363 shall apply, as amended. Under Winchester City Code 21-61(C), the Purchasing Agent will render such decision within thirty (30) days.
5. Add subparagraph 12.01(D), as follows:
“In accordance with Winchester City Code, Section 21-44, Contract Modification: A public contract may include provisions for modification of the contract during performance, but no fixed-price contract may be increased by more than twenty-five percent of the amount of the contract or ten thousand dollars (\$10,000), whichever is greater, without the advance written approval of the City Council. In no event may the amount of any contract, without adequate consideration, be increased for any purpose, including, but not limited to, relief of an offeror from the consequences of an error in its bid or offer.”
6. Add the following language to 14.02 (A3), as follows: “See Special Conditions, Section 4.02.”
7. Delete paragraph 14.09
8. Add subparagraph 17.01 (B), as follows: “This section, or any other General Condition in conflict with Virginia Code §8.01-222 shall not supercede the Commonwealth of Virginia statutory notice provisions. Virginia Code §8.01-222 shall prevail under all circumstances.

Demolition and Structural Stabilization of the Historic Taylor Hotel

SPECIAL CONDITIONS

1. SPECIFICATIONS

Unless otherwise described in the Contract Documents, the following specifications and standards apply to this work:

1. 2009 Virginia Uniform Statewide Building Code
2. 2007 VDOT Road and Bridge Specifications
3. City of Winchester – Public Services Standards Manual

2. INSURANCE REQUIREMENTS – CITY OF WINCHESTER

- 2.01 Before any work at the site is started, Contractor shall deliver to Owner, with a Copy to Engineer, an executed Certificate of Insurance. The Certificate shall indicate that the required insurance is in force and state that the policies will not be materially changed or canceled without a thirty (30) day advance notice by registered mail to Owner and Engineer. The representative signing the Certificate shall furnish evidence that he is authorized to so sign as well as his address and the name and address of the agency or agencies through which the insurance was obtained. Contractor shall take out and maintain the following insurance:

- 2.02 Contractor's Comprehensive General Liability (bodily injury and property damage) shall be provided for the following limits:

A. Combined single limit **3,000,000 dollars each occurrence**

B. Combined single limit: **3,000,000 dollars annual aggregate**

C. The general liability insurance shall include the following coverage:

1. Comprehensive Form
2. Premises - Operation
3. Explosion and Collapse Hazard
4. Underground Hazards
5. Products/Completed - Operations Hazards
6. Contractual Liability Insurance
7. Broad Form Comprehensive General Liability, Property Damage, including Completed Operations
8. Independent Contractors (Contractor's Protective Liability)
9. Personal Injury (all insuring agreements), Deleting the Employee Exclusion
10. If protection is under an umbrella policy, it shall not exclude any of the above items under the basic policy.

D. City of Winchester shall be named by endorsement as Additional Insured.

- 2.03 Contractor's Automobile Liability (bodily injury and property damage) shall be provided for the following limits:

A. Combined single limit: 1,000,000 dollars each occurrence

- B. The Automobile Liability Insurance shall include the following coverage:
1. Comprehensive Form
 2. Owned
 3. Hired
 4. Non-Owner
- 2.04 Contractor's Workers Compensation Insurance as required by Federal, State, and Municipal Laws for the protection of all Contractor's employees working on or in connection with the Project, including broad form, all state and voluntary compensation coverage, and employer's liability coverage with the following limits:
- A. Bodily injury by accident 1,000,000 Dollars each accident
 - B. Bodily injury by disease 1,000,000 Dollars policy limit
 - C. Bodily injury by disease 1,000,000 Dollars for each employee
- 2.05 All insurers shall be licensed to conduct business in the Commonwealth of Virginia and all insurance companies are required to have an A.M. Best Company financial rating of A- or better.
- 2.06 Contractor shall require his insurance agent to certify on the insurance certificate that the insurance coverage specified by these specifications is fully in effect, both in scope and amount. If insurance coverage is effected with more than one company, the individual certificates shall identify the items of insurance which the individual companies cover. The insurance certificates shall contain a provision that the coverage afforded under the policies will not be canceled or materially changed unless at least a thirty (30) days prior written notice has been given to the Owner.
- 2.07 Left Intentionally Blank
- 3.08 Notification and Handling of an Insurance Claim:
The general contractor on any City construction project shall be responsible for ensuring that all matters concerning the completion of an assigned project, including but not limited to handling of insurance claims by third parties arising as a result of the acts and omissions of the general contractor or his subcontractors, are handled in a professional manner. To this end, the City expects the general contractor to act responsibly with regard to prompt payment of valid insurance claims and upon notice of a claim, the general contractor shall immediately notify the Owner's project manager, investigate and document the claim, and make a liability determination within ten (10) business days. Pending subrogation between the general contractor and/or sub-contractor and/or any insurance carrier will not be a cause for delay in payment of a valid claim. Default of this provision may result in retainage payments being withheld and jeopardize the general contractor's future bid opportunities with the City of Winchester.

3. **WORKING HOURS - HOLIDAYS**

Work under the Contract shall not be prosecuted on Sundays, or on legal holidays. Work hours (Monday – Saturday) shall be from 7:00 a.m. until 6:00 p.m. If the Contractor wishes to prosecute any portion of the Work outside of the established work hours or on Sundays or legal holidays, he shall first obtain written permission from the Engineer. Such requests shall be submitted at least 48 hours in advance of the period proposed for such overtime work. For the purpose of this Contract, the legal holidays are identified as:

- Thanksgiving Day and day after Thanksgiving (Nov. 22 and 23)
- Christmas Eve and Christmas (Dec. 24 and 25)
- New Years Day (Jan. 1, 2013)

4. **PROGRESS PAYMENTS**

4.01 The basis for payments shall be the actual quantity of work completed, as determined in field by the Engineer.

4.02 An amount equal to five percent (5%) of each progress payment shall be held from each payment as retainage.

5. **MISCELLANEOUS OTHER CONDITIONS**

5.01 It shall be the responsibility of the Contractor to locate utilities in the field. Contractor shall give all utility companies that may have subsurface or surface utilities in the area adequate notice at least 48 hours in advance that the Contractor is to perform work in this area.

5.02 The attention of the Contractor is drawn to the fact that the possibility exists of the Contractor encountering various water, chemical, electrical, or other lines. Contractor shall exercise extreme care before and during construction to locate and flag these items so as to avoid damage to existing lines. Should damage occur to an existing line, the Contractor shall repair the line at no cost to the Owner. Temporary support, adequate protection and maintenance of all underground and surface utility installations and structures, drains, and other obstructions encountered in the progress of the work shall be provided by the Contractor at his own expense.

5.03 Contractor shall be responsible for the temporary removal and re-installation of structures including, but not limited, to piping, conduits, drains, that may interfere with the work. The cost of such work shall be included in the Bid for the project and shall not result in any additional cost to the Owner. It shall be the Contractor's responsibility to contact and obtain permission from various authorities having jurisdiction over such structures, prior to start of the work.

5.04 Local drainage is not to be blocked. Shoulders, ditches, and drainage facilities shall be kept clear at all times and in condition satisfactory to the Engineer.

- 5.05 Adequate barricades, construction signs, red lanterns and guards as required shall be placed and maintained during the course of the work, and until it is safe for the pedestrian and vehicular traffic to use the area. The rules and regulations of the Local and State and Federal authorities respecting safety provisions shall be observed.
- 5.06 All acceptance and payment of work is subject to inspection by the City of Winchester.
- 5.07 The Contractor shall be responsible to establish and maintain communications with the residents and business owners of the area affected by the construction. The purpose of this communication is to notify the residents and business owners of construction activities which affect them, and to coordinate accommodations for them during construction. The Contractor shall also be required to assist residents as necessary with access into or out of their residence during the construction.
- 5.08 Contractor and all sub-contractors shall obtain a City of Winchester Business License before beginning work.
- 5.09 Contractor shall be responsible for obtaining and paying for all building permits required for the project from the City's Building Department. Contractor shall also be responsible for obtaining and paying for any Special Inspections and materials testing that may be required by the City's Building Department for the project.
- 5.10 Contractor shall be solely responsible for adhering to all applicable federal, state, and local environmental regulations pertaining to this work, including, but not limited to asbestos and lead based paint.
- 5.11 The Contractor shall be solely responsible for adhering to all OSHA requirements at all times during the construction of the project.
- 5.12 Contractor shall be responsible for repairing any damage to Indian Alley or adjacent properties caused during the construction of this project.
- 5.13 Contractor shall take all reasonable steps necessary to minimize and alleviate dust during the construction of this project.

*****END SPECIAL CONDITIONS*****

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. 1. (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

(ii) (a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part

of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been

communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

(b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) **Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who

is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) **Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by

the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be

awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1 01 0, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration..... makes, utters or publishes any statement knowing the same to be false..... shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. The provisions of this paragraph B are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety. The provisions of this paragraph C are applicable where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96). 40 USC 3701 et seq.

(3) The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

General Decision Number: VA120109 07/27/2012 VA109

Superseded General Decision Number: VA20100201

State: Virginia

Construction Type: Building

Counties: Frederick and Winchester* Counties in Virginia.

*INDEPENDENT CITY

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Modification Number	Publication Date
0	01/06/2012
1	01/13/2012
2	01/20/2012
3	02/24/2012
4	03/30/2012
5	04/06/2012
6	05/04/2012
7	07/27/2012

ASBE0024-012 10/01/2010

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 31.79	14.68

Includes the application of all insulating materials,
protective coverings, coatings and finishes to all types of
mechanical systems

ASBE0024-013 10/01/2010

	Rates	Fringes
ABATEMENT WORKER: ASBESTOS (Removal from Mechanical Systems).....	\$ 19.86	7.17

BOIL0045-004 10/01/2011

	Rates	Fringes
BOILERMAKER.....	\$ 30.06	23.42

BRDC0001-005 05/01/2011

	Rates	Fringes
TILE FINISHER.....	\$ 20.48	8.74

BRDC0001-006 05/01/2011

	Rates	Fringes
TILE SETTER.....	\$ 25.29	9.89

BRVA0001-004 07/01/2010

	Rates	Fringes
BRICKLAYER.....	\$ 19.00	7.50

CARP0388-003 08/01/2010

	Rates	Fringes
CARPENTER (Drywall Hanging & Form Work Only).....	\$ 26.38	7.06

ELEC0026-034 06/01/2011

	Rates	Fringes
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ELECTRICIAN.....\$ 40.67 13.37

HVAC Temperature Controls, Alarms on New Construction or
wherever Alarm System is installed in conduit

ELEC0026-038 03/07/2011

Rates Fringes

SOUND AND COMMUNICATION

TECHNICIAN.....\$ 25.55 7.57+3%

Sound Technician, Low Voltage Wiring for Alarms does not
include New Construction or Alarms installed in conduit

ELEV0010-006 01/01/2012

Rates Fringes

ELEVATOR MECHANIC.....\$ 39.70 23.535+a+b

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence
Day, Labor Day, Veterans' Day, Thanksgiving Day, Christmas
Day and the Friday after Thanksgiving.

b. VACATIONS: Employer contributes 8% of basic hourly rate
for 5 years or more of service; 6% of basic hourly rate for
6 months to 5 years of service as vacation pay credit.

* ENGI0147-025 05/01/2012

Rates Fringes

Power equipment operators:

Bulldozer.....\$ 23.26 8.69%+6.30

Cranes 90 tons & over
capacity; Tower & Climbing
Cranes with Controls 100

ft. above ground.....\$ 27.98 8.69%+7.80

Cranes under 90 tons;

Excavators of 1 yard
capacity or more.....\$ 27.06 8.69%+7.80

Rollers.....\$ 19.49 8.69%+6.30

IRON0005-008 08/01/2011

Rates Fringes

IRONWORKER (Ornamental &
Structural).....\$ 28.58 14.695

LABO0011-001 09/05/2011

Rates Fringes

LABORER: Mason Tender -
Cement/Concrete.....\$ 20.88 6.47

PAIN0970-006 12/01/2010

Rates Fringes

Painters: (Drywall
Finishing/Taping, Brush &
Roller, & Spray).....\$ 23.46 13.37

PAIN1195-009 12/01/2009

Rates Fringes

GLAZIER.....\$ 28.50 8.82

PLUM0005-013 08/01/2011

Rates Fringes

PLUMBER.....\$ 38.17 15.50+a

a. PAID HOLIDAYS: New Year's Day, Martin Luther King's
Birthday, Memorial Day, Independence Day, Labor Day,

Veterans' Day, Thanksgiving Day and the day after
Thanksgiving and Christmas Day.

PLUM0602-003 08/01/2011

	Rates	Fringes
PIPEFITTER (Including HVAC Pipe and System Installation)....	\$ 37.62	17.22+a

a. PAID HOLIDAYS: New Year's Day, Martin Luther King's
Birthday, Memorial Day, Independence Day, Labor Day,
Veterans' Day, Thanksgiving Day and the day after
Thanksgiving and Christmas Day.

ROOF0030-035 05/01/2011

	Rates	Fringes
ROOFER.....	\$ 26.60	8.98

SFVA0669-005 04/01/2012

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers).....	\$ 30.53	17.47

SHEE0100-042 01/01/2011

	Rates	Fringes
SHEET METAL WORKER (Including HVAC Duct Installation).....	\$ 35.59	13.01

SUVA2010-103 09/20/2010

	Rates	Fringes
BRICK POINTER/CAULKER/CLEANER....	\$ 17.28	0.00
CARPENTER, Excludes Drywall Hanging, and Form Work.....	\$ 16.49	2.91
CEMENT MASON/CONCRETE FINISHER...	\$ 18.85	3.78
LABORER: Common or General.....	\$ 12.18	0.00
LABORER: Landscape.....	\$ 10.64	0.00
LABORER: Mason Tender - Brick...	\$ 10.90	2.35
LABORER: Pipelayer.....	\$ 15.47	2.27
LABORER: Mason Tender - Pointer, Caulker, Cleaner.....	\$ 11.94	0.00
OPERATOR: Backhoe.....	\$ 19.20	3.19
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 15.62	2.40
OPERATOR: Forklift.....	\$ 17.93	7.28
OPERATOR: Loader.....	\$ 20.63	4.80
OPERATOR: Mechanic.....	\$ 18.23	1.59
TRUCK DRIVER: Dump Truck.....	\$ 13.25	1.80

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have been found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an

interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

CITY OF WINCHESTER
TECHNICAL SPECIFICATION
SCOPE OF WORK – SEQUENCE OF CONSTRUCTION

Page 1 of 1
July 29, 2012

I. Description.

This specification summarizes the scope of work and the sequence of construction that the Contractor shall follow for this project.

II. Scope of Work

In general, the project consists of the following work: demolition of selective areas of the Taylor Hotel, protection and salvage of select materials for future use, disposal of materials, and structural stabilization of the remaining structures that will be renovated in the near future. All the work required for this project is shown in detail on the Drawings.

III. Sequence of Construction

The Contractor, in general, shall determine the sequence of construction for the project.

The Contractor shall prepare a written project schedule for the construction of the entire project which shall be reviewed and approved by the City before construction begins.

CITY OF WINCHESTER
SPECIAL PROVISION
TRAFFIC CONTROL

Page 1 of 2
August 4, 2012

I. Description.

This work shall consist of maintaining and protecting traffic (vehicular and pedestrian) through areas of construction, maintaining public and private entrances, constructing and obliterating detours, and protecting the traveling public (both vehicles and pedestrians) within the limits of the project and over detours.

II. Procedures

Traffic shall be maintained and protected in accordance with the requirements of Section 105.14 of the VDOT Specifications. Work shall be scheduled and performed so as to provide minimum interference with and maximum protection for traffic. The Contractor's personnel, equipment, machinery, tools, and supplies shall be kept outside the clear zone and clear of active traffic lanes except as necessary for prosecuting active work. Stabilized construction entrances shall be used in construction areas where there is a potential for construction vehicles to track material from the construction site onto a paved surface. Material that is spilled or tracked onto the traveled pavement during prosecution of the work shall be promptly removed.

The Contractor shall maintain the traffic control devices, which shall include, but not be limited to, repositioning of displaced devices including traffic barrier service, replacement due to inadequate structural integrity including traffic barrier service, replacement due to loss of reflectivity, repair of defaced sheeting and legend, replacement of broken supports, repositioning of leaning signs so they are plumb and the sign face is perpendicular to the pavement edge, cleaning of dirty devices, and replacement of stolen or vandalized devices. Barricades, barriers, and other safety devices shall be inspected at least daily, and deficiencies shall be immediately corrected. Safety and protective devices furnished by the Contractor will remain the property of the Contractor and shall be removed from the project site upon completion of the work or as directed by the City.

The procedures and devices for the maintenance of traffic shall be the same as in Section 512 of the VDOT Specifications.

The following are specific requirements for this project:

- A. The pedestrian walkway between the Braddock Street Parking Garage and the Pedestrian Walking Mall shall be closed throughout the project.**
- B. A self supporting, 6-foot high chain-link safety fence shall be installed adjacent to the Pedestrian Walking Mall (see attached diagram) and be maintained throughout the project.**
- C. All access to and from the project site shall be thru Indian Alley. The Contractor shall not be allowed access on the Pedestrian Walking Mall.**
- D. The Contractor shall maintain vehicular thru traffic on Indian Alley at all times, with the following exceptions:**
 - a. The first two weeks of the project (October 8 – 20), the alley may be closed to thru traffic between Boscawen and Piccadilly from 7 a.m. to 6 p.m.**
 - b. Following the first two weeks of the project and only when work is occurring immediately adjacent to the alley, the alley can be closed to thru traffic between Boscawen and Piccadilly and only during the period from 11 a.m. thru 4 p.m. Contractor shall give the City a minimum of 48-hours notice before the alley can be closed.**

CITY OF WINCHESTER
SPECIAL PROVISION
TRAFFIC CONTROL

Page 2 of 2
August 4, 2012



CITY OF WINCHESTER
TECHNICAL SPECIFICATION
DEMOLITION OF STRUCTURES – REMOVAL/SALVAGE

Page 1 of 1
August 4, 2012

I. Description.

This work shall consist of selective demolition of certain structures/materials as shown on the drawings. These materials will either be salvaged or recycled for future use in the renovation of the buildings or the materials will be properly disposed of by the Contractor.

II. Procedures

1. The Contractor shall be solely responsible for preventing any damage to adjacent structures that are to remain in place during the demolition process. The Contractor shall be responsible for repairing and correcting any damages that may occur at their expense.
2. The Contractor shall be solely responsible for protecting and preserving the materials to be salvaged or recycled for future use in the renovation of the buildings. The Contractor shall carefully remove these materials and neatly store them on-site as specified by the City.
3. The face bricks that are to be saved shall be stacked neatly on wooden pallets and stored in the courtyard area.
4. All demolished materials that are not salvaged or recycled for future use shall be removed from the project site and properly disposed of by the Contractor.

CITY OF WINCHESTER
TECHNICAL SPECIFICATION
DISPOSAL OF MATERIALS

Page 1 of 1
July 30, 2012

I. Description.

This work shall consist of properly disposing of all demolished and unsuitable materials from the project site.

II. Procedures

- A. Disposal of all materials shall comply with all applicable federal, state, and local regulations and compliance shall be the sole responsibility of the Contractor.
- B. Prior to commencing work, the Contractor shall submit to the City for approval, a written plan detailing how and where all materials shall be disposed of from the project.
- C. The Contractor shall provide the City with copies of written agreements from private landowners and/or written approval from landfill operators accepting disposal of the materials from the project.
- D. For disposal of materials on private property, the written disposal plan shall include the following:
 - (1) the location and approximate boundaries of the disposal area;
 - (2) procedures to minimize erosion and siltation;
 - (3) provision of environmentally compatible screening;
 - (4) restoration plan;
 - (5) cover vegetation;
 - (6) other use of the disposal site;
 - (7) the drainage pattern on and away from the area of land affected, including the directional flow of water and a certification with appropriate calculations that verify all receiving channels are in compliance with Minimum Standard 19 of the Virginia Erosion and Sediment Control Regulations;
 - (8) location of haul roads and stabilized construction entrances if construction equipment will enter a paved roadway;
 - (9) constructed or natural waterways used for discharge;
 - (10) a sequence and schedule to achieve the approved plan and;
 - (11) the total drainage area for temporary sediment traps and basins shall be shown. Sediment traps are required if the runoff from a watershed area of less than three acres flows across a disturbed area. Sediment basins are required if the runoff from a watershed area of three acres or more flows across a disturbed area. The Contractor shall certify that the sediment trap or basin design is in compliance with VDOT Standards and Specifications, all local, state, and federal laws. Once a sediment trap or basin is constructed, the dam and all outfall areas shall be immediately stabilized.
- E. Upon completion of the use of private property as an approved disposal area, the Contractor shall furnish the City a release signed by the property owner indicating that the property has been satisfactorily restored.

CITY OF WINCHESTER
TECHNICAL SPECIFICATION
ALLAYING DUST

Page 1 of 1
July 30, 2012

I. Description.

This work shall consist of minimizing and allaying dust as may be required during the project.

II. Procedures

The Contractor shall take all reasonable steps as necessary and as directed by the City to minimize and allay dust created during the construction of this project. The City shall supply water to the Contractor to allay dust at no additional cost to the Contractor.

SECTION 03 10 00
CONCRETE FORMING AND ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Formwork for cast-in place concrete, with shoring, bracing and anchorage.
- B. Openings for other work.
- C. Form accessories.
- D. Form stripping.

1.02 RELATED REQUIREMENTS

- A. Section 03 20 00 - Concrete Reinforcing.
- B. Section 03 30 00 - Cast-in-Place Concrete.
- C. Section 03 39 00 - Concrete Curing.

1.03 REFERENCE STANDARDS

- A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; 2006.
- B. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute; 2005.
- C. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute; 2008.
- D. ACI 347 - Guide to Formwork for Concrete; American Concrete Institute; 2004.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on materials and installation requirements.
- C. Shop Drawings: Indicate pertinent dimensions, materials, bracing, and arrangement of joints and ties.

1.05 QUALITY ASSURANCE

- A. Designer Qualifications: Design formwork under direct supervision of a Professional Structural Engineer experienced in design of concrete formwork and licensed in the Commonwealth of Virginia.
- B. Maintain one copy of each installation standard and shop drawings on site throughout the duration of concrete work.

PART 2 PRODUCTS

2.01 FORMWORK - GENERAL

- A. Provide concrete forms, accessories, shoring, and bracing as required to accomplish cast-in-place concrete work.
- B. Design and construct to provide resultant concrete that conforms to design with respect to shape, lines, and dimensions.
- C. Comply with applicable state and local codes with respect to design, fabrication, erection, and removal of formwork.
- D. Comply with relevant portions of ACI 347, ACI 301, and ACI 318.

2.02 WOOD FORM MATERIALS

- A. Softwood Plywood: PS 1, C Grade, Group 2.

2.03 PREFABRICATED FORMS

- A. Manufacturers:

1. Alabama Metal Industries Corporation: www.amico-online.com.
 2. Molded Fiber Glass Construction Products Co: www.mfgcp.com.
 3. SureVoid Products, Inc: www.surevoid.com.
 4. Substitutions: See Section 01 60 00 - Product requirements.
- B. Preformed Steel Forms: Minimum 16 gage matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
- C. Pan Type: Steel, of size and profile indicated.

2.04 FORMWORK ACCESSORIES

- A. Form Ties: Snap-off type, galvanized metal, fixed length, cone type, with waterproofing washer, 1 inch back break dimension, free of defects that could leave holes larger than 1 inch in concrete surface.
- B. Form Release Agent: Colorless mineral oil that will not stain concrete.
- C. Flashing Reglets: Galvanized steel, 22 gage thick, longest possible lengths, with alignment splines for joints, foam filled, release tape sealed slots, anchors for securing to concrete formwork.
- D. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.
- E. Waterstops: Rubber, minimum 1,750 psi tensile strength, minimum 50 degrees F to plus 175 degrees F working temperature range, 6 inch wide, maximum possible lengths, ribbed profile, preformed corner sections, heat welded jointing.
1. Waterstop manufacturer specifications shall be submitted for approval

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

3.02 EARTH FORMS

- A. Hand trim sides and bottom of earth forms. Remove loose soil prior to placing concrete.

3.03 ERECTION - FORMWORK

- A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 301.
- B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.
- C. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
- D. Align joints and make watertight. Keep form joints to a minimum.
- E. Obtain approval before framing openings in structural members that are not indicated on drawings.
- F. Install void forms in accordance with manufacturer's recommendations. Protect forms from moisture or crushing.
- G. Coordinate this section with other sections of work that require attachment of components to formwork..
- H. Carefully provide 3/4" chamfer at top of stem walls and other locations as indicated on the drawings.

3.04 APPLICATION - FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
- B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.

- C. Do not apply form release agent where concrete surfaces will receive special finishes or applied coverings that are affected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.

3.05 INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Provide formed openings where required for items to be embedded in passing through concrete work.
- B. Locate and set in place items that will be cast directly into concrete.
- C. Coordinate with work of other sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other work.
- D. Position recessed anchor slots for brick veneer masonry anchors to spacing and intervals specified in Section 04 20 01.
- E. Install accessories in accordance with manufacturer's instructions, so they are straight, level, and plumb. Ensure items are not disturbed during concrete placement.
- F. Install waterstops in accordance with manufacturer's instructions, so they are continuous without displacing reinforcement. Heat seal joints so they are watertight.
- G. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.
- H. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fitted so joints will not be apparent in exposed concrete surfaces.

3.06 FORM CLEANING

- A. Clean forms as erection proceeds, to remove foreign matter within forms.
- B. Clean formed cavities of debris prior to placing concrete.
 - 1. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.
 - 2. During cold weather, remove ice and snow from within forms. Do not use de-icing salts. Do not use water to clean out forms, unless formwork and concrete construction proceed within heated enclosure. Use compressed air or other means to remove foreign matter.

3.07 FORMWORK TOLERANCES

- A. Construct formwork to maintain tolerances required by ACI 117.

3.08 FIELD QUALITY CONTROL

- A. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and to verify that supports, fastenings, wedges, ties, and items are secure.

3.09 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and any imposed loads.
- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
- C. Store removed forms to prevent damage to form materials or to fresh concrete. Discard damaged forms.

END OF SECTION

SECTION 03 20 00
CONCRETE REINFORCING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Reinforcing steel for cast-in-place concrete.
- B. Supports and accessories for steel reinforcement.

1.02 RELATED REQUIREMENTS

- A. Section 03 10 00 - Concrete Forming and Accessories.
- B. Section 03 30 00 - Cast-in-Place Concrete.
- C. Section 04 20 00 - Unit Masonry: Reinforcement for masonry.

1.03 REFERENCE STANDARDS

- A. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International; 2005.
- B. ACI 318 - Building Code Requirements For Structural Concrete and Commentary; American Concrete Institute International; 2008.
- C. ACI SP-66 - ACI Detailing Manual; American Concrete Institute International; 2004.
- D. ASTM A 82/A 82M - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement; 2007.
- E. ASTM A 184/A 184M - Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement; 2006.
- F. ASTM A 185/A 185M - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete; 2007.
- G. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2009b.
- H. ASTM A 884/A 884M - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement; 2006.
- I. CRSI (DA4) - Manual of Standard Practice; Concrete Reinforcing Steel Institute; 2001.
- J. CRSI (P1) - Placing Reinforcing Bars; Concrete Reinforcing Steel Institute; Eighth Edition.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Comply with requirements of ACI SP-66. Include bar schedules, shapes of bent bars, spacing of bars, and location of splices.
- C. Manufacturer's Certificate: Certify that reinforcing steel and accessories supplied for this project meet or exceed specified requirements.

1.05 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301.
 - 1. Maintain one copy of each document on project site.

PART 2 PRODUCTS

2.01 REINFORCEMENT

- A. Reinforcing Steel: ASTM A 615/A 615M Grade 60 (420).
- B. Stirrup Steel: ASTM A 82/A 82M steel wire, unfinished.
- C. Steel Welded Wire Reinforcement: ASTM A 185 welded plain wire reinforcement.
 - 1. Flat Sheets.
 - 2. Mesh Size: 6 x 6.

- D. Reinforcement Accessories:
 - 1. Tie Wire: Annealed, minimum 16 gage.
 - 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement. No masonry or stone spacers are permitted.

2.02 FABRICATION

- A. Fabricate concrete reinforcing in accordance with CRSI (DA4) - Manual of Standard Practice.
- B. Welding of reinforcement is not permitted.
- C. Locate reinforcing splices not indicated on drawings at point of minimum stress.

PART 3 EXECUTION

3.01 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position.
- B. Do not displace or damage vapor barrier.
- C. Accommodate placement of formed openings.
- D. Conform to applicable code for concrete cover over reinforcement.

3.02 FIELD QUALITY CONTROL

- A. An independent testing agency, as specified in Section 01 40 00, will inspect installed reinforcement for conformance to contract documents before concrete placement.

END OF SECTION

SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Floors and slabs on grade.
- B. Concrete foundation walls.
- C. Concrete reinforcement.
- D. Joint devices associated with concrete work.
- E. Miscellaneous concrete elements, including equipment pads, light pole bases, flagpole bases, thrust blocks, and manholes.

1.02 RELATED REQUIREMENTS

- A. Section 03 10 00 - Concrete Forming and Accessories: Forms and accessories for formwork.
- B. Section 03 39 00 - Concrete Curing.
- C. Section 07 95 13 - Expansion Joint Cover Assemblies.
- D. Section 07 90 05 - Joint Sealers.

1.03 REFERENCE STANDARDS

- A. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International; 2005.
- B. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; 2004 (Errata 2007).
- C. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
- D. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 1999.
- E. ACI 306R - Cold Weather Concreting; American Concrete Institute International; 1988 (Reapproved 2002).
- F. ACI 308R - Guide to Curing Concrete; American Concrete Institute International; 2001 (Reapproved 2008).
- G. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2008.
- H. ACI 347 - Guide to Formwork for Concrete; American Concrete Institute International; 2004.
- I. ASTM A 185/A 185M - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete; 2007.
- J. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2009b.
- K. ASTM C 33 - Standard Specification for Concrete Aggregates; 2008.
- L. ASTM C 39/C 39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2009a.
- M. ASTM C 94/C 94M - Standard Specification for Ready-Mixed Concrete; 2009a.
- N. ASTM C 150 - Standard Specification for Portland Cement; 2007.
- O. ASTM C 171 - Standard Specification for Sheet Materials for Curing Concrete; 2007.
- P. ASTM C 173/C 173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2009.
- Q. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete; 2006.

- R. ASTM C 309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2007.
- S. ASTM C 494/C 494M - Standard Specification for Chemical Admixtures for Concrete; 2008a.
- T. ASTM C 618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2008a.
- U. ASTM C 881/C 881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 2002.
- V. ASTM C 1059 - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 1999 (Reapproved 2008).
- W. ASTM D 1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types); 2004 (Reapproved 2008).
- X. ASTM E 1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2009.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements.
- C. Samples: Submit samples of underslab vapor retarder to be used.
- D. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.05 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
 - 1. Maintain one copy of each document on site.
- B. Follow recommendations of ACI 305R when concreting during hot weather.
- C. Follow recommendations of ACI 306R when concreting during cold weather.

PART 2 PRODUCTS

2.01 FORMWORK

- A. Comply with requirements of Section 03 10 00.

2.02 REINFORCEMENT

- A. Reinforcing Steel: ASTM A 615/A 615M Grade 60 (420).
 - 1. Type: Deformed billet-steel bars.
 - 2. Finish: Unfinished, unless otherwise indicated.
- B. Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain type.
- C. Reinforcement Accessories:
 - 1. Tie Wire: Annealed, minimum 16 gage.
 - 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement. Masonry or stone supports are not permitted.

2.03 CONCRETE MATERIALS

- A. Cement: ASTM C 150, Type I - Normal portland type.
 - 1. Acquire all cement for entire project from same source.
- B. Fine and Coarse Aggregates: ASTM C 33.
 - 1. Acquire all aggregates for entire project from same source.
- C. Water: Clean and not detrimental to concrete.
- D. Fiber Reinforcement: Synthetic fiber shown to have long-term resistance to deterioration when exposed to moisture and alkalis; 3/4 inch length.

- E. Welded Wire Reinforcement: See specification Section 03 20 00

2.04 CHEMICAL ADMIXTURES

- A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- B. Air Entrainment Admixture: ASTM C 260.
- C. High Range Water Reducing and Retarding Admixture: ASTM C 494/C 494M Type G.
- D. High Range Water Reducing Admixture: ASTM C 494/C 494M Type F.
- E. Water Reducing and Accelerating Admixture: ASTM C 494/C 494M Type E.
- F. Water Reducing and Retarding Admixture: ASTM C 494/C 494M Type D.
- G. Accelerating Admixture: ASTM C 494/C 494M Type C.
- H. Retarding Admixture: ASTM C 494/C 494M Type B.
- I. Water Reducing Admixture: ASTM C 494/C 494M Type A.

2.05 BONDING AND JOINTING PRODUCTS

- A. Latex Bonding Agent: Non-dispersible acrylic latex, complying with ASTM C 1059 Type II.
- B. Epoxy Bonding System: Complying with ASTM C 881/C 881M and of Type required for specific application.
- C. Joint Filler: Nonextruding, resilient asphalt impregnated fiberboard or felt, complying with ASTM D 1751, 1/4 inch thick and 4 inches deep ; tongue and groove profile.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

- A. Verify that forms are clean and free of rust before applying release agent.
- B. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- C. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
 - 1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
 - 2. Use latex bonding agent only for non-load-bearing applications.
- D. Where new concrete with integral waterproofing is to be bonded to previously placed concrete, prepare surfaces to be treated in accordance with waterproofing manufacturer's instructions. Saturate cold joint surface with clean water, and remove excess water before application of coat of waterproofing admixture slurry. Apply slurry coat uniformly with semi-stiff bristle brush at rate recommended by waterproofing manufacturer.
- E. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink epoxy grout.
- F. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.
 - 1. Vapor Retarder Over Granular Fill: Install compactible granular fill before placing vapor retarder as shown on the drawings. Do not use sand.

3.03 INSTALLING REINFORCEMENT

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.
- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

3.04 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Place concrete for floor slabs in accordance with ACI 302.1R.
- C. Notify the Owner not less than 24 hours prior to commencement of placement operations.
- D. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.
- E. Repair underslab vapor retarder damaged during placement of concrete reinforcing. Repair with vapor retarder material; lap over damaged areas minimum 6 inches and seal watertight.
- F. Separate slabs on grade from vertical surfaces with joint filler.
- G. Extend joint filler from bottom of slab to within 1/2 inch of finished slab surface. Conform to Section 07 90 05 for finish joint sealer requirements.
- H. Install joint devices in accordance with manufacturer's instructions.
- I. Install construction joint devices in coordination with floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
- J. Install joint device anchors for expansion joint assemblies specified in Section 07 95 13. Maintain correct position to allow joint cover to be flush with floor and wall finish.
- K. Apply sealants in joint devices in accordance with Section 07 90 05.
- L. Maintain records of concrete placement. Independent testing agency shall record date, location, quantity, air temperature, and test samples taken.
- M. Place concrete continuously between predetermined expansion, control, and construction joints.
- N. Do not interrupt successive placement; do not permit cold joints to occur unless noted on the drawings.
- O. Place floor slabs in checkerboard or saw cut pattern indicated.
- P. Saw cut joints within 12 hours after placing. Use 3/16 inch thick blade, cut into 1/4 depth of slab thickness.
- Q. Screed floors level, maintaining surface flatness of maximum 1/8 inch in 10 ft.

3.05 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.
- C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:
 - 1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.

3.06 CURING AND PROTECTION

- A. Comply with requirements of Section 03 39 00.

3.07 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
- D. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.
- E. Compressive Strength Tests: ASTM C 39/C 39M. For each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cu yd or less of each class of concrete placed.
- F. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
- G. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C 143/C 143M.

3.08 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to the Owner and Building Specialists Inc within 24 hours of test.
- B. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- C. Repair or replacement of defective concrete will be determined by the Owner. The cost of additional testing shall be borne by Building Specialists Inc when defective concrete is identified.
- D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of the Owner for each individual area.

3.09 SCHEDULE - CONCRETE TYPES AND FINISHES

- A. Foundation Walls: 3,000 psi 28 day concrete, form finish with honeycomb filled surface.
- B. Underside of Supported Floors and Structure Exposed to View: 4,000 psi 28 day concrete, form finish with honeycomb filled surface.
- C. Interior slabs 3000psi
- D. Exterior slabs 4000psi

END OF SECTION

SECTION 04 20 00
UNIT MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete Block.
- B. Concrete Brick.
- C. Mortar and Grout.
- D. Reinforcement and Anchorage.
- E. Accessories.

1.02 RELATED REQUIREMENTS

- A. Section 03 20 00 - Concrete Reinforcing: Reinforcing steel for grouted masonry.
- B. Section 04 05 11 - Masonry Mortaring and Grouting.
- C. Section 07 21 00 - Thermal Insulation: Insulation for cavity spaces.
- D. Section 07 62 00 - Sheet Metal Flashing and Trim: Through-wall masonry flashings.
- E. Section 07 90 05 - Joint Sealers: Backing rod and sealant at control and expansion joints.

1.03 REFERENCE STANDARDS

- A. ACI 530/ASCE 5/TMS 402 - Building Code Requirements for Masonry Structures; American Concrete Institute International; 2008.
- B. ACI 530.1/ASCE 6/TMS 602 - Specification For Masonry Structures; American Concrete Institute International; 2008.
- C. ASTM A 82/A 82M - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement; 2007.
- D. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- E. ASTM C 55 - Standard Specification for Concrete Brick; 2009.
- F. ASTM C 62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale); 2008.
- G. ASTM C 129 - Standard Specification for Nonloadbearing Concrete Masonry Units; 2006.
- H. ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2006.
- I. ASTM C 270 - Standard Specification for Mortar for Unit Masonry; 2008a.
- J. ASTM C 404 - Standard Specification for Aggregates for Masonry Grout; 2007.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all relevant installers.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.
- C. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.

1.06 QUALITY ASSURANCE

- A. Comply with provisions of ACI 530/ASCE 5/TMS 402 and ACI 530.1/ASCE 6/TMS 602, except where exceeded by requirements of the contract documents.
 - 1. Maintain one copy of each document on project site.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

- A. Concrete Block: Comply with referenced standards and as follows:
 - 1. Size: Standard units with nominal face dimensions of 16 x 8 inches and nominal depths as indicated on the drawings for specific locations.
 - 2. Non-Loadbearing Units: ASTM C 129.
 - a. Hollow block, as indicated.
 - b. Lightweight.
- B. Concrete Brick:
 - 1. For below grade use, ASTM C 1634 (or ASTM C 55-03 Grade N), normal weight.
 - 2. For other uses, ASTM C 55, normal weight.
 - 3. Size: As indicated on drawings.

2.02 MORTAR AND GROUT MATERIALS

- A. Mortar and grout: As specified in Section 04 05 11.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Grout Aggregate: ASTM C 404.
- D. Water: Clean and potable.

2.03 REINFORCEMENT AND ANCHORAGE

- A. Manufacturers of Joint Reinforcement and Anchors:
 - 1. Dur-O-Wal: www.dur-o-wal.com.
 - 2. Hohmann & Barnard, Inc: www.h-b.com.
 - 3. Masonry Reinforcing Corporation of America: www.wirebond.com.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Reinforcing Steel: Type specified in Section 03 20 00; size as indicated on drawings; galvanized finish.
- C. Joint Reinforcement: Use ladder type joint reinforcement where vertical reinforcement is involved and truss type elsewhere, unless otherwise indicated.
- D. Single Wythe Joint Reinforcement: Truss type; ASTM A 82/A 82M steel wire, mill galvanized to ASTM A 641/A 641M, Class 3; 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage on each exposure.
- E. Multiple Wythe Joint Reinforcement: Truss type; fabricated with moisture drip; ASTM A 82/A 82M steel wire, hot dip galvanized after fabrication to ASTM A 153/A 153M, Class B; 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage on each exposure.
- F. Strap Anchors: Bent steel shapes configured as required for specific situations, 1-1/4 in width, 0.105 in thick, lengths as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage from masonry face, corrugated for embedment in masonry joint, hot dip galvanized to ASTM A 153/A 153M, Class B.
- G. Masonry Veneer Anchors: 2-piece anchors that permit differential movement between masonry veneer and structural backup, hot dip galvanized to ASTM A 153/A 153M, Class B.
 - 1. Anchor plates: Not less than 0.075 inch thick, designed for fastening to structural backup through sheathing by two fasteners; provide design with legs that penetrate sheathing and insulation to provide positive anchorage.
 - 2. Wire ties: Manufacturer's standard shape, 0.1875 inch thick.
 - 3. Vertical adjustment: Not less than 3-1/2 inches.

2.04 FLASHINGS

- A. Metal Flashing Materials: Copper, as specified in Section 07 62 00.

2.05 ACCESSORIES

- A. Preformed Control Joints: Rubber material. Provide with corner and tee accessories, fused joints.
- B. Cavity Mortar Control: Semi-rigid polyethylene or polyester mesh panels, sized to thickness of wall cavity, and designed to prevent mortar droppings from clogging weeps and cavity vents and allow proper cavity drainage.
- C. Weeps: Polyethylene tubing.
 - 1. Manufacturers:
 - a. Dur-O-Wal: www.dur-o-wal.com.
 - b. Hohmann & Barnard, Inc: www.h-b.com.
 - c. Masonry Reinforcing Corporation of America: www.wirebond.com.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.
- D. Cavity Vents: Polyester mesh.
 - 1. Manufacturers:
 - a. CavClear/Archovations, Inc: www.cavclear.com.
 - b. Mortar Net USA, Ltd: www.mortarnet.com.
 - c. Substitutions: See Section 01 60 00 - Product Requirements.
- E. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive masonry.
- B. Verify that related items provided under other sections are properly sized and located.
- C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02 PREPARATION

- A. Direct and coordinate placement of metal anchors supplied for installation under other sections.

3.03 COLD AND HOT WEATHER REQUIREMENTS

- A. Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during, and 48 hours after completion of masonry work.
- B. Maintain materials and surrounding air temperature to maximum 90 degrees F prior to, during, and 48 hours after completion of masonry work. Placement of masonry in temperatures exceeding this range may require the use of special methods and controls of the curing environment.

3.04 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- C. Concrete Masonry Units: Running Bond
- D. Brick Units: Running Bond

3.05 PLACING AND BONDING

- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- B. Lay hollow masonry units with face shell bedding on head and bed joints.
- C. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.
- D. Remove excess mortar and mortar smears as work progresses.

- E. Interlock intersections and external corners.
- F. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
- G. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

3.06 REINFORCEMENT AND ANCHORAGE - GENERAL

- A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 24 inches each side of opening.
- C. Place continuous joint reinforcement in first and second joint below top of walls.
- D. Lap joint reinforcement ends minimum 6 inches.
- E. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Unless otherwise indicated on drawings or closer spacing is indicated under specific wall type, space anchors at maximum of 36 inches horizontally and 24 inches vertically.
- F. Where documents call for cavity wall type reinforcement (specifically on the basement floor, east wall and first floor, south wall) leave reinforcement projecting for installation of face brick during a later phase.

3.07 REINFORCEMENT AND ANCHORAGE - SINGLE WYTHE MASONRY

- A. Install horizontal joint reinforcement 8 inches on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 24 inches each side of opening.
- C. Place continuous joint reinforcement in first and second joint below top of walls.
- D. Lap joint reinforcement ends minimum 6 inches.

3.08 MASONRY FLASHINGS

- A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.
 - 1. Extend flashings full width at such interruptions and at least 4 inches into adjacent masonry or turn up at least 4 inches to form watertight pan at non-masonry construction.
 - 2. Remove or cover protrusions or sharp edges that could puncture flashings.
 - 3. Seal lapped ends and penetrations of flashing before covering with mortar.
- B. Extend metal flashings to within 1/4 inch of exterior face of masonry.
- C. Lap end joints of flashings at least 4 inches and seal watertight with mastic or elastic sealant.

3.09 GROUTED COMPONENTS

- A. Reinforce bond beams with 2, No. 5 bars, 1 inch from bottom web U.N.O..
- B. Lap splices minimum 24 bar diameters.
- C. Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch of dimensioned position.
- D. Place and consolidate grout fill without displacing reinforcing.
- E. At bearing locations, fill masonry cores with grout for a minimum 12 inches either side of opening.

3.10 BUILT-IN WORK

- A. As work progresses, install built-in metal door frames and other items to be built into the work and furnished under other sections.
- B. Install built-in items plumb, level, and true to line.

- C. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout.
 - 1. Fill adjacent masonry cores with grout minimum 12 inches from framed openings.
- D. Do not build into masonry construction organic materials that are subject to deterioration.

3.11 TOLERANCES

- A. Maximum Variation from Alignment of Columns: 1/8 inch.
- B. Maximum Variation From Unit to Adjacent Unit: 1/16 inch.
- C. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.
- D. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.
- E. Maximum Variation of Joint Thickness: 1/8 inch in 3 ft.

3.12 CLEANING

- A. Remove excess mortar and mortar droppings.
- B. Replace defective mortar. Match adjacent work.
- C. Clean soiled surfaces with cleaning solution.
- D. Use non-metallic tools in cleaning operations.

3.13 PROTECTION

- A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.
- B. Cover all masonry to prevent water from soaking the top of the walls where the top of wall is exposed to weather.

END OF SECTION

SECTION 05 12 00
STRUCTURAL STEEL FRAMING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Structural steel framing members, erection.
- B. Base plates, shear stud connectors and bolts.
- C. Grouting under base plates.

1.02 PRICE AND PAYMENT PROCEDURES

- A. See Section 01 22 00 - Unit Prices, for additional unit price requirements.
- B. Structural Steel Framing:
 - 1. Basis of Measurement: By the ton.
 - 2. Basis of Payment: Includes structural members fabricated, placed and anchored.

1.03 REFERENCE STANDARDS

- A. AISC (MAN) - Steel Construction Manual; American Institute of Steel Construction, Inc.; 2005.
- B. AISC S303 - Code of Standard Practice for Steel Buildings and Bridges; American Institute of Steel Construction, Inc.; 2005.
- C. AISC S348 - Specification for Structural Joints Using ASTM A325 or A490 Bolts; 2004.
- D. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel; 2008.
- E. ASTM A 53/A 53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2007.
- F. ASTM A 108 - Standard Specification for Steel Bar, Carbon and Alloy, Cold Finished; 2007.
- G. ASTM A 307 - Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength; 2007b.
- H. ASTM A 325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2009a.
- I. ASTM A 325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Tensile Strength (Metric); 2009.
- J. ASTM A 500/A 500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2010.
- K. ASTM A 992/A 992M - Standard Specification for Structural Steel Shapes; 2006a.
- L. ASTM C 1107/C 1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink); 2008.
- M. ASTM E 94 - Standard Guide for Radiographic Examination; 2004.
- N. ASTM E 164 - Standard Practice for Ultrasonic Contact Examination of Weldments; 2008.
- O. ASTM E 165 - Standard Test Method for Liquid Penetrant Examination; 2009.
- P. ASTM E 709 - Standard Guide for Magnetic Particle Testing; 2008.
- Q. ASTM F 1554 - Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength; 2007a.
- R. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; American Welding Society; 2007.
- S. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society; 2010.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings:

1. Indicate profiles, sizes, spacing, locations of structural members, openings, attachments, and fasteners.
 2. Connections not detailed.
 3. Indicate welded connections with AWS A2.4 welding symbols. Indicate net weld lengths.
- C. Manufacturer's Mill Certificate: Certify that products meet or exceed specified requirements.
- D. Welders Certificates: Certify welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.05 QUALITY ASSURANCE

- A. Fabricate structural steel members in accordance with AISC "Steel Construction Manual."
- B. Comply with Section 10 of AISC "Code of Standard Practice for Steel Buildings and Bridges" for architecturally exposed structural steel.
- C. Erector: Company specializing in performing the work of this section with minimum 5 years of documented experience.
- D. Design connections not detailed on the drawings under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the Commonwealth of Virginia.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Steel Angles, Plates, Channels, S Shapes, M Shapes, and HP Shapes: ASTM A 36/A 36M.
- B. Steel W Shapes and Tees: ASTM A 992/A 992M.
- C. Rolled Steel Structural Shapes: ASTM A 992/A 992M.
- D. Cold-Formed Structural Tubing: ASTM A 500, Grade B.
- E. Shear Stud Connectors: Made from ASTM A 108 Grade 1015 bars.
- F. High-Strength Structural Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, medium carbon, galvanized.
- G. Welding Materials: AWS D1.1; type required for materials being welded.
- H. Grout: Non-shrink, non-metallic aggregate type, complying with ASTM C 1107/C 1107M and capable of developing a minimum compressive strength of 5000 psi at 28 days.

2.02 FABRICATION

- A. Shop fabricate to greatest extent possible.

2.03 FINISH

- A. Prepare structural component surfaces in accordance with SSPC SP 15.
- B. Shop prime structural steel members. Do not prime surfaces that will be field welded, in contact with concrete, or high strength bolted.

2.04 SOURCE QUALITY CONTROL

- A. Provide shop testing and analysis of structural steel.
1. Members to be tested: all structural steel.
- B. High-Strength Bolts: Provide testing and verification of shop-bolted connections in accordance with AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts", testing at least 100 percent of bolts at each connection.
- C. Welded Connections: Visually inspect all shop-welded connections ____ one of the following:

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that conditions are appropriate for erection of structural steel and that the work may properly proceed.

3.02 ERECTION

- A. Erect structural steel in compliance with AISC "Code of Standard Practice for Steel Buildings and Bridges".
- B. Allow for erection loads, and provide sufficient temporary bracing to maintain structure in safe condition, plumb, and in true alignment until completion of erection and installation of permanent bracing.
- C. Use carbon steel bolts only for temporary bracing during construction, unless otherwise specifically permitted on drawings. Install high-strength bolts in accordance with AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts".
- D. Do not field cut or alter structural members without approval of the Owner.
- E. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.
- F. Grout solidly between column plates and bearing surfaces, complying with manufacturer's instructions for nonshrink grout. Trowel grouted surfaces smooth, splaying neatly to 45 degrees.

3.03 TOLERANCES

- A. Maximum Variation From Plumb: 1/8 inch

3.04 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00.
- B. High-Strength Bolts: Provide testing and verification of field-bolted connections in accordance with AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts", testing at least 100 percent of bolts at each connection.

END OF SECTION

SECTION 05 40 00
METAL FRAMING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Formed steel stud exterior wall and interior wall framing.
- B. Formed steel joist, purlin, and truss framing and bridging.

1.02 RELATED DOCUMENTS AND SECTIONS

- A. Conditions of the Contract, Supplementary Conditions, Division 1 - General Requirements, and Drawings apply to the Work of this Section.
- B. Section 05 12 00 - Structural Steel Framing: Structural building framing.
- C. Section 04 72 00 - Cast Stone Masonry
- D. Section 06 10 00 - Rough Carpentry: Wood blocking and miscellaneous framing.
- E. Section 07 21 00 - Thermal Insulation: Insulation within framing members.
- F. Section 09 21 16 - Gypsum Board Assemblies: Lightweight, non-load bearing metal stud framing and exterior wall sheathing.
- G. Section 09 22 16 - Interior Metal Wall Framing.

1.03 REFERENCE STANDARDS

- A. AISI SG02-1 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2001 with 2004 supplement. (replaced SG-971)
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2009a.
- D. ASTM C955 - Standard Specification for Load-Bearing (Transverse and Axial) Steel Studs, Runners (Tracks), and Bracing or Bridging for Screw Application of Gypsum Panel Products and Metal Plaster Bases; 2009a.
- E. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).

1.04 SUBMITTALS

- A. See Section 01 33 00 - Submittal Procedures, for submittal requirements.
- B. Product Data: Provide data on standard framing members; describe materials and finish, product criteria, limitations.
- C. Shop Drawings: Indicate component details, framed openings, bearing, anchorage, loading, welds, and type and location of fasteners, and accessories or items required of related work.
 - 1. Describe method for securing studs to tracks and for bolted framing connections.
 - 2. Provide design engineer's stamp on shop drawings.
- D. Manufacturer's Installation Instructions: Indicate special procedures, conditions requiring special attention .

1.05 DESIGN REQUIREMENTS

- A. The successful contractor is responsible for designing framing system, including anchorage to structural system and necessary modifications to meet specified requirements and maintain visual design concepts. Design system in accordance with AISI Design Manual.

1.06 QUALITY ASSURANCE

- A. Designer Qualifications: Design framing system under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in the State in which the Project is located.
- B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, and with minimum five years of documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Metal Framing, Connectors, and Accessories:
 - 1. Dietrich Metal Framing: www.dietrichindustries.com.
 - 2. Marino: www.marinoware.com.
 - 3. The Steel Network, Inc: www.SteelNetwork.com.
 - 4. Substitutions: See Section 01 62 10 - Product Options and Substitutions.

2.02 FRAMING SYSTEM

- A. Provide primary and secondary framing members, bridging, bracing, plates, gussets, clips, fittings, reinforcement, and fastenings as required to provide a complete framing system.
- B. Design Criteria: Provide completed framing system having the following characteristics:
 - 1. Design: Calculate structural characteristics of cold-formed steel framing members according to AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
 - 2. Structural Performance: Design, engineer, fabricate, and erect to withstand specified design loads for project conditions within required limits.
 - 3. Design Loads: In accordance with applicable codes.
 - 4. Live load deflection meeting the following, unless otherwise indicated:
 - a. Floors: Maximum vertical deflection under live load of 1/480 of span.
 - b. Roofs: Maximum vertical deflection under live load of 1/240 of span.
 - c. Exterior Walls: Maximum horizontal deflection under wind load of 1/240 of span.
 - 1) Maximum deflection: L/600 behind stucco or masonry.
 - 5. Able to tolerate movement of components without damage, failure of joint seals, undue stress on fasteners, or other detrimental effects when subject to seasonal or cyclic day/night temperature ranges.
 - 6. Able to accommodate construction tolerances, deflection of building structural members, and clearances of intended openings.

2.03 FRAMING MATERIALS

- A. Studs and Track: ASTM C955; studs formed to channel, "C", or "Sigma" shape with punched web; U-shaped track in matching nominal width and compatible height.
 - 1. Gage and depth: As required to meet specified performance levels.
 - 2. Galvanized in accordance with ASTM A653/A653M G90/Z275 coating.
- B. Joists and Purlins: Fabricated from ASTM A653/A653M steel sheet, with G90/Z275 hot dipped galvanized coating.
 - 1. Gage and depth: As required to meet specified performance levels.
- C. Framing Connectors: Factory-made formed steel sheet, ASTM A653/A653M SS Grade 50, with G60/Z180 hot dipped galvanized coating and factory punched holes.

1. Structural Performance: Maintain load and movement capacity required by applicable code, when evaluated in accordance with AISI North American Specification for the Design of Cold Formed Steel Structural Members; minimum 16 gage, 0.06 inch thickness.
2. Movement Connections: Provide mechanical anchorage devices that accommodate movement using slotted holes, screws and anti-friction bushings, while maintaining structural performance of framing. Provide movement connections at the following locations:
 - b. Where top of stud wall terminates below structural floor or roof, connect studs to structure in manner allowing vertical and horizontal movement of slab without affecting studs; allow for minimum movement of 1/2 inch.
3. Provide non-movement connections for tie-down to foundation, floor-to-floor tie-down, roof-to-wall tie-down, joist hangers, gusset plates, and stiffeners.

2.04 ACCESSORIES

- A. Bracing, Furring, Bridging: Formed sheet steel, thickness determined for conditions encountered; finish to match framing components.
- B. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.05 FASTENERS

- A. Self-Drilling, Self-Tapping Screws, Bolts, Nuts and Washers: Hot dip galvanized per ASTM A153/A153M.
- B. Anchorage Devices: Power actuated.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.

3.02 INSTALLATION OF STUDS

- A. Install components in accordance with manufacturers' instructions and ASTM C 1007 requirements.
- B. Align floor and ceiling tracks; locate to wall layout. Secure in place with fasteners at maximum 24 inches on center UNO. Coordinate installation of sealant with floor and ceiling tracks.
- C. Place studs at designated spacing or not greater than 16 inches on center; not more than 2 inches from abutting walls and at each side of openings. Connect studs to tracks using fastener method.
- D. Construct corners using minimum of three studs. Install double studs at wall openings, door and window jambs.
- E. Install load bearing studs full length in one piece. Splicing of studs is not permitted.
- F. Install load bearing studs, brace, and reinforce to develop full strength and achieve design requirements.
- G. Provide deflection allowance in stud track, directly below horizontal building framing at non-load bearing framing.
- H. Attach cross studs to studs for attachment of fixtures anchored to walls.
- I. Install framing between studs for attachment of mechanical and electrical items, and to prevent stud rotation.

3.03 INSTALLATION OF JOISTS AND PURLINS

- A. Install framing components in accordance with manufacturer's instructions.
- B. Make provisions for erection stresses. Provide temporary alignment and bracing.

- C. Locate joist end bearing directly over load bearing studs or provide load distributing member to top of stud track.
- D. Provide web stiffeners at reaction points and as need in accordance with manufacturers recommendation.
- E. Touch-up field welds and damaged galvanized surfaces with primer.

END OF SECTION

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Structural dimension lumber framing.
- B. Non-structural dimension lumber framing.
- C. Rough opening framing for roof openings.
- D. Sheathing.
- E. Underlayment.
- F. Preservative treated wood materials.
- G. Miscellaneous framing and sheathing.

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.
- B. Section 05 12 00 - Structural Steel Framing: Prefabricated beams and columns for support of wood framing.
- C. Section 05 50 00 - Metal Fabrications: Miscellaneous steel connectors and support angles for wood framing.

1.03 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard; 1999.
- B. AFPA (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; American Forest and Paper Association; 2001.
- C. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- D. ASTM C 1177/C 1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2008.
- E. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2010.
- F. AWPA U1 - Use Category System: User Specification for Treated Wood; American Wood Protection Association; 2010.
- G. PS 1 - Structural Plywood; 2007.
- H. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology (Department of Commerce); 2005.
- I. SPIB (GR) - Grading Rules; Southern Pine Inspection Bureau, Inc.; 2002.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.

2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
- B. Lumber fabricated from old growth timber is not permitted.
- C. Provide sustainably harvested wood; see Section 01 60 00 for requirements.
- D. Provide wood harvested within a 500 mile radius of the project site; see Section 01 60 00 for requirements for locally-sourced products.
- E. Lumber salvaged from deconstruction or demolition of existing buildings or structures is permitted in lieu of sustainably harvested lumber provided it is clean, denailed, and free of paint and finish materials, and other contamination; identify source; see Section 01 60 00 for requirements for reused products.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Grading Agency: Southern Pine Inspection Bureau, Inc. (SPIB).
- B. Sizes: Nominal sizes as indicated on drawings, S4S.
- C. Moisture Content: S-dry or MC19.
- D. Stud Framing (2 by 2 through 2 by 6):
 1. Species: Any allowed under referenced grading rules.
 2. Species: Spruce-Pine-Fir.
 3. Grade: No. 2.
- E. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16):
 1. Machine stress-rated (MSR) as follows:
 - a. Fb-single (minimum extreme fiber stress in bending): 1350 psi.
 - b. E (minimum modulus of elasticity): 1,300,000 psi.
 2. Species: Any allowed under grading rules.
 3. Grade: No. 2 & Btr.
- F. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 1. Lumber: S4S, No. 2 or Standard Grade.

2.03 EXPOSED BOARDS

- A. Submit manufacturer's certificate that products meet or exceed specified requirements, in lieu of grade stamping.
- B. Moisture Content: Kiln-dry (15 percent maximum).
- C. Surfacing: S4S.
- D. Species: Douglas Fir.
- E. Grade: No. 2, 2 Common, or Construction.

2.04 CONSTRUCTION PANELS

- A. Subfloor/Underlayment Combination: APA PRP-108, Rated Sturd-I-Floor.
 1. Exposure Class: Exterior.
 2. Span Rating: 16 inches.
 3. Thickness: 3/4 inches, nominal.
- B. Roof Sheathing: APA PRP-108, Structural I Rated Sheathing, Exterior Exposure Class, and as follows:
 1. Span Rating: 24/0.
- C. Wall Sheathing: APA PRP-108, Structural I Rated Sheathing, Exterior Exposure Class, and as follows:
 1. Span Rating: 24/0.
- D. Wall Sheathing: Plywood, PS 1, Grade C-D, Exposure I.

- E. Wall Sheathing: Glass mat faced gypsum, ASTM C 1177/C 1177M, square long edges, 5/8 inch Type X fire-resistant.
- F. Other Applications:
 - 1. Plywood Concealed From View But Located Within Exterior Enclosure: PS 1, C-C Plugged or better, Exterior grade.
 - 2. Plywood Exposed to View But Not Exposed to Weather: PS 1, A-D, or better.
 - 3. Other Locations: PS 1, C-D Plugged or better.

2.08 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 - 2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
- B. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.
- C. Sill Flashing: As specified in Section 07 62 00.

2.09 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWWA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 - 1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWWA standards.
- B. Preservative Treatment:
 - 1. Preservative Pressure Treatment of Lumber Above Grade: AWWA U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.25 lb/cu ft retention.
 - a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - b. Treat lumber exposed to weather.
 - c. Treat lumber in contact with masonry or concrete.
 - 2. Preservative Pressure Treatment of Plywood Above Grade: AWWA U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne preservative to 0.25 lb/cu ft retention.
 - a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
 - b. Treat plywood in contact with masonry or concrete.
 - c. Treat plywood in other locations as indicated.

PART 3 EXECUTION

3.01 PREPARATION

- A. Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches and seal.
- B. Install sill gasket under sill plate of framed walls bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts.
- C. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 FRAMING INSTALLATION

- A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.
- B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.
- C. Install structural members full length without splices unless otherwise specifically detailed.
- D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AFPA Wood Frame Construction Manual.
- E. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches of bearing at each end.
- F. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.
- G. Provide bridging at joists in excess of 8 feet span as detailed. Fit solid blocking at ends of members.
- H. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.
- I. Where dimensional lumber framing is installed against timber framing in an infill condition, apply a continuous bead of sealant along entire joint on both sides of framing member - interior and exterior.

3.04 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.
- C. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
- D. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

3.05 ROOF-RELATED CARPENTRY

- A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

3.06 INSTALLATION OF CONSTRUCTION PANELS

- A. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.
 - 1. Nail panels to framing; staples are not permitted.
- B. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.
 - 1. Place water-resistive barrier horizontally over wall sheathing, weather lapping edges and ends.

3.07 TOLERANCES

- A. Framing Members: 1/4 inch from true position, maximum.
- B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.08 CLEANING

- A. Waste Disposal: Comply with the requirements of Section 01 74 19.

1. Comply with applicable regulations.
 2. Do not burn scrap on project site.
 3. Do not burn scraps that have been pressure treated.
 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 06 16 43
GYPSUM SHEATHING

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Fiberglass-mat faced, moisture and mold resistant gypsum sheathing.
- B. Related Sections:
 - 1. Section 05 40 00 Metal Framing.
 - 2. Section 06 10 00 Rough Carpentry.
 - 3. Section 09 21 16 Gypsum Board Assemblies.

1.02 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products.
 - 2. ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 - 3. ASTM C1002 Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
 - 4. ASTM C1177 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
 - 5. ASTM C1280 Standard Specification for Application of Gypsum Sheathing.
 - 6. ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
 - 7. ASTM D6329 Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers.
 - 8. ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
 - 9. ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials.
- B. Gypsum Association (GA): GA-253 Application of Gypsum Sheathing.

1.03 SUBMITTALS

- A. Product Data: Manufacturer's specifications and installation instructions for each product specified.

1.04 WARRANTY

- A. Provide products that offer twelve months of coverage against in-place exposure damage (delamination, deterioration and decay).
 - 1. Manufacturer's Warranty:
 - 2. Five years against manufacturing defects.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Georgia-Pacific Gypsum LLC:
 - 1. Fiberglass-Mat Faced Gypsum Sheathing: DensGlass Sheathing.
 - 2. Fiberglass-Mat Faced Gypsum Sheathing, Type X for Fire Rated Designs: DensGlass Fireguard Sheathing.
- B. Substitutions: See Section 01 60 00 - Product Requirements

2.02 MATERIALS

- A. Fiberglass-Mat Faced Gypsum Sheathing: ASTM C1177:
 - 1. Thickness: 1/2 inch.
 - 2. Width: 4 feet.
 - 3. Length: 8 feet 9 feet 10 feet.

4. Weight: 1.9 lb/sq. ft.
 5. Edges: Square.
 6. Surfacing: Fiberglass mat on face, back, and long edges.
 7. Racking Strength (Ultimate, not design value) (ASTM E72): Not less than 540 pounds per square foot, dry.
 8. Flexural Strength, Parallel (ASTM C473): 80 lbf, parallel.
 9. Humidified Deflection (ASTM C1177): Not more than 2/8 inch.
- B. Permeance (ASTM E96): 23 perms.
- C. R-Value (ASTM C518): 0.56.
- D. Mold Resistance (ASTM D3273): 10, in a test as manufactured.
- E. Microbial Resistance (ASTM D6329, GREENGUARD 3-week protocol): Will not support microbial growth.
- F. Acceptable Products:
1. 1/2 inch DensGlass Sheathing, Georgia-Pacific Gypsum.
 2. Substitutions: See Section 01 60 00 - Product Requirements.
- G. Fire-Rated Fiberglass-Mat Faced Gypsum Sheathing: ASTM C1177, Type X:
1. Thickness: 5/8 inch.
 2. Width: 4 feet.
 3. Length: 8 feet 9 feet 10 feet.
 4. Weight: 2.5 lb/sq. ft.
 5. Edges: Square.
 6. Surfacing: Fiberglass mat on face, back, and long edges.
 7. Racking Strength (Ultimate, not design value) (ASTM E72): Not less than 654 pounds per square foot, dry.
 8. Flexural Strength, Parallel (ASTM C1177): 100 lbf, parallel.
 9. Humidified Deflection (ASTM C1177): Not more than 1/8 inch.
- H. Permeance (ASTM E96): Not more than 17 perms.
- I. R-Value (ASTM C518): 0.67.
- J. Mold Resistance (ASTM D3273): 10, in a test as manufactured.
- K. Microbial Resistance (ASTM D6329, GREENGUARD 3-week protocol): Will not support microbial growth.
- L. Acceptable Products:
1. 5/8 inch DensGlass Fireguard Sheathing, Georgia-Pacific Gypsum.
 2. Substitutions: See Section 01 60 00 - Product Requirements

2.03 ACCESSORIES

- A. Screws: ASTM C1002, corrosion resistant treated.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions:
1. Inspection: Verify that project conditions and substrates are acceptable, to the installer, to begin installation of work of this section.

3.02 INSTALLATION

- A. General: In accordance with GA-253, ASTM C1280 and the manufacturer's recommendations.

3.03 PROTECTION

- A. Protect gypsum board installations from damage and deterioration until date of Substantial Completion.

END OF SECTION

SECTION 07 11 13
BITUMINOUS DAMPPROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Bituminous dampproofing.
- B. Protection boards.

1.02 RELATED REQUIREMENTS

- A. Section 07 21 00 - Thermal Insulation: Rigid insulation board used as protection board.

1.03 REFERENCE STANDARDS

- A. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing; 2005.
- B. ASTM D 43 - Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing; 2000 (Reapproved 2006).
- C. ASTM D 449 - Standard Specification for Asphalt Used in Dampproofing and Waterproofing; 2003 (Reapproved 2008).
- D. NRCA ML104 - The NRCA Roofing and Waterproofing; National Roofing Contractors Association; Fifth Edition, with interim updates.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide properties of primer, bitumen, and mastics.
- C. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

1.05 FIELD CONDITIONS

- A. Maintain ambient temperatures above 40 degrees F for 24 hours before and during application until dampproofing has cured.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Tremco ; Product Polymer-enhanced asphalt liquid-applied membrane.
- B. Other Acceptable Manufacturers:
 - 1. Karnak Chemical Corp: www.karnakcorp.com.
 - 2. Mar-Flex Systems, Inc: www.mar-flex.com.
 - 3. W.R. Meadows, Inc: www.wrmeadows.com.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ACCESSORIES

- A. Protection Board: ¼" Rigid insulation.
- B. 6" single wall drain tile with filter "sock" meeting: ASTM F405

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify substrate surfaces are durable, free of matter detrimental to adhesion or application of dampproofing system.
- C. Verify that items that penetrate surfaces to receive dampproofing are securely installed.

3.02 PREPARATION

- A. Protect adjacent surfaces not designated to receive dampproofing.

- B. Clean and prepare surfaces to receive dampproofing in accordance with manufacturer's instructions.
- C. Do not apply dampproofing to surfaces unacceptable to manufacturer.
- D. Apply mastic to seal penetrations, small cracks, or minor honeycomb in substrate.

3.03 APPLICATION

- A. Foundation Walls: Apply two coats of asphalt dampproofing.
- B. Prime surfaces in accordance with manufacturer's instructions.
- C. Prime surfaces at a rate of 2 gal/100 sq ft. Permit primer to dry.
- D. Apply bitumen at a temperature limited by equiviscous temperature (EVT) plus or minus 25 F; do not exceed finish blowing temperature for four hours.
- E. Apply bitumen in one coat, continuous and uniform, at a rate of 25 sq ft/gal per coat.
- F. Apply from 2 inches below finish grade elevation down to top of footings.
- G. Seal items projecting through dampproofing surface with mastic. Seal watertight.
- H. Immediately backfill against dampproofing to protect from damage.
- I. Place protection board directly over dampproofing, butt joints, and adhere to tacky dampproofing.
- J. Scribe and cut boards around projections, penetrations, and interruptions.

END OF SECTION

SECTION 07 21 00
THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Board insulation and integral vapor retarder at perimeter foundation wall

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.
- B. Section 07 25 00 - Weather Barriers: Separate air barrier and vapor retarder materials.

1.03 REFERENCE STANDARDS

- A. ASTM C 578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2009.
- B. ASTM C 612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation; 2009.
- C. ASTM C 665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2006.
- D. ASTM D 2842 - Standard Test Method for Water Absorption of Rigid Cellular Plastics; 2006.
- E. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2010.
- F. ASTM E 96/E 96M - Standard Test Methods for Water Vapor Transmission of Materials; 2005.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.
- C. Manufacturer's Installation Instructions: Include information on special environmental conditions required for installation and installation techniques.

1.05 FIELD CONDITIONS

- A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Insulation:
 - 1. Dow
 - 2. Owens Corning
 - 3. GAF
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 APPLICATIONS

- A. Insulation at Perimeter of Foundation: Extruded polystyrene board.

2.03 FOAM BOARD INSULATION MATERIALS

- A. Extruded Polystyrene Board Insulation: ASTM C 578, Type X; Extruded polystyrene board with either natural skin or cut cell surfaces; with the following characteristics:
 - 1. Flame Spread Index: 75 or less, when tested in accordance with ASTM E 84.
 - 2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E 84.
 - 3. Board Size: 48 x 96 inch.
 - 4. Board Thickness: 1-1/2 inches.
 - 5. Board Edges: Square.
 - 6. Thermal Conductivity (k factor) at 25 degrees F: 0.18.
 - 7. Compressive Resistance: 15 psi.

8. Board Density: 1.3 lb/cu ft.
9. Water Absorption, maximum: 0.3 percent, volume.
10. Manufacturers:
 - a. Dow Chemical Co: www.dow.com.
 - b. Owens Corning Corp: www.owenscorning.com.
 - c. Pactiv Building Products: greenguard.pactiv.com.
11. Substitutions: See Section 01 60 00 - Product Requirements.

2.06 ACCESSORIES

- A. Adhesive: Type recommended by insulation manufacturer for application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation and adhesive.
- B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BOARD INSTALLATION AT FOUNDATION PERIMETER

- A. Adhere a 6 inch wide strip of polyethylene sheet over construction, control, and expansion joints with double beads of adhesive each side of joint.
 1. Tape seal joints.
 2. Extend sheet full height of joint.
- B. Apply adhesive to back of boards:
 1. Three continuous beads per board length.
 2. Full bed 1/8 inch thick.
- C. Install boards horizontally on foundation perimeter.
 1. Place boards to maximize adhesive contact.
 2. Install in running bond pattern.
 3. Butt edges and ends tightly to adjacent boards and to protrusions.
- D. Extend boards over expansion joints, unbonded to foundation on one side of joint.
- E. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.03 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION

SECTION 07 24 00

EXTERIOR INSULATION AND FINISH SYSTEM

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Exterior Insulation and Finish System (EIFS), Class PB, in accordance with EIMA (PB).

1.02 RELATED SECTIONS

- A. Section 06 10 00 - Rough Carpentry; For supporting substrate.
- B. Section 07 62 00 - Sheet Metal Flashing and Trim.
- C. Section 07 90 00 - Joint Sealers.

1.03 REFERENCES

- A. ASTM B 117 - Standard Practice for Operating Salt Spray (Fog) Apparatus.
- B. ASTM C 150 - Standard Specification for Portland Cement.
- C. ASTM C 297 - Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions.
- D. ASTM C 578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
- E. ASTM D 968 - Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.
- F. ASTM D 2247 - Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity.
- G. ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- H. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- I. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
- J. ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
- K. ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
- L. ASTM G 23 - Standard Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials.
- M. EIMA 101.01 - Standard Test Method for Freeze/Thaw Resistance of Exterior Insulation and Finish Systems (EIFS), Class PB; EIFS Industry Members Association (modified ASTM C 67).
- N. EIMA 101.02 - Standard Test Method for Resistance to Water Penetration of Exterior Insulation and Finish Systems (EIFS), Class PB; EIFS Industry Members Association (modified ASTM E 331).
- O. EIMA 101.03 - Standard Test Method for Determining the Tensile Adhesion Strength of an Exterior Insulation and Finish System (EIFS), Class PB; EIFS Industry Members Association.
- P. EIMA 101.86 - Standard Test Method for Resistance of Exterior Insulation and Finish Systems (EIFS), Class PB to the Effects of Rapid Deformation (Impact); EIFS Industry Members Association.
- Q. EIMA 105.01 - Standard Test Method for Alkali Resistance of Glass Fiber Reinforcing Mesh for Use in Exterior Insulation and Finish Systems (EIFS), Class PB; EIFS Industry Members Association.
- R. EIMA (PB) - Guideline Specification for Exterior Insulation and Finish Systems, Class PB; EIFS

- Industry Members Association.
- S. EIMA (EPS) - Guideline Specification for Expanded Polystyrene (EPS) Insulation Board; EIFS Industry Members Association.
- T. GA-253 - Recommended Specifications for the Application of Gypsum Sheathing; Gypsum Association.
- U. GA-600 - Fire Resistance Design Manual; Gypsum Association.
- V. MIL-STD-810 - Environmental Test Methods and Engineering Guidelines; Military Specifications and Standards.

1.04 SUBMITTALS

- A. See Section 01330 - Submittal Requirements, for submittal procedures.
- B. Product Data: Manufacturer's descriptive literature and specifications for components of specified stucco systems, demonstrating compliance of products to specified requirements.
- C. Verification Samples: For each color and finish selected, two samples, minimum size 8 inches square, representing actual color and finish of products to be installed.
- D. Test Reports: Certified reports from independent testing laboratory supporting compliance of EIF systems to specified requirements.
- E. Installer Qualifications: Include list of previous projects that identifies the following for each project:
 - 1. Project location and date of completion.
 - 2. Architect's name, address, and telephone number.
 - 3. Owner's name, address, and telephone number.
- F. Warranty: Specimen of manufacturer's 5 year warranty documents.
- G. Operation and Maintenance Data: Manufacturer's printed instructions and recommendations for maintaining and cleaning of finish coatings.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum fifteen years documented experience as single-source producer of products specified in this section, and current member in good standing of Sealant Waterproofing and Restoration Institute (SWRI) and with SBCC approval certificate.
- B. Installer Qualifications:
 - 1. Minimum three years documented experience installing finishes of types specified in this section.
 - 2. Capable of demonstrating successful completion of a minimum of three previous projects of similar size and complexity indicated in the Contract Documents.
 - 3. Employing applicators having minimum three years experience applying products specified in this section.
- C. Fire Performance Characteristics: For construction requiring fire performance, materials and construction shall be provided that are identical to those tested for the following fire performance characteristics. Evaluation for fire resistive performance should be accomplished by testing and inspection agency recognized by the code having jurisdiction.
 - 1. Surface-Burning Characteristics: For construction requiring rated fire-resistance, provide insulation board, adhesives, base coats, and finish coats with flame-spread index of 25 or less and smoke-developed index of 450 or less, per ASTM E 84.
 - 2. Fire Resistance Characteristics: For construction requiring rated fire-resistance, provide materials and construction identical to those of assemblies whose fire resistance has been determined according to ASTM E 119.

1.06 MOCK-UP

- A. Mock-Up: Construct mock-up for each specified finish coating color and texture, using

materials specified in this section.

1. Construct mock-up at location indicated or directed, size 4 by 4 feet.
2. Obtain City's acceptance of mock-up before beginning construction activities of this section; accepted mock-up to be standard by which completed construction activities of this section will be judged.
3. Mock-up may remain as part of Work.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Store products of this section in manufacturer's unopened packaging until installation.
- B. Maintain storage area conditions for products of this section in accordance with manufacturer's instructions until installation.

1.08 PROJECT CONDITIONS

- A. Do not apply coating materials to exterior surfaces until ambient temperature and surface temperature of surfaces to receive coating materials are both above 40 degrees F and are expected to remain so for 24 hours after application of finish coating.

1.09 SEQUENCING

- A. Sequence construction activities of this section with construction activities of other sections to prevent penetration of substrates after application of finish coatings, and to prevent damage to finish coatings by subsequent construction activities.
- B. Ensure that sheet metal flashings and trim adjacent to EIF system installations are installed immediately after finish coating has dried.
- C. Ensure that joint sealers adjacent to EIF system installations are installed immediately after finish coating has dried.

1.10 WARRANTY

- A. See Section 01780 - Closeout Submittals, for additional warranty requirements.
- B. Manufacturer's Warranty: Manufacturer's standard warranty against defects in materials.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers:
 1. Sto Corp.; P.O. Box 44609, Atlanta, GA 30331; Tel: (800) 221-2397 and (404) 346-3666. System: Sto Powerwall Stucco.
 2. Dryvit Systems, Inc.; One Energy Way, P.O. Box 1014, West Warwick, RI 02893; Tel: (800) 556-7752 and (401) 822-4100. System: Outsulation Plus.
- B. Acceptable Substrate Manufacturer: Georgia Pacific Corporation.
- C. Acceptable Joint Sealer Manufacturer: Dow Corning Corp.
- D. Substitutions: See Section 01600 - Product Requirements.

2.02 EXTERIOR INSULATION AND FINISH SYSTEM - CLASS PB

- A. Exterior Insulation and Finish System: Dryvit Outsulation Plus System or STO Premier Next System, with the following properties:
 1. Listed in GA-600.
 2. Abrasion resistance, when tested in accordance with ASTM D 968: No cracking, checking, or loss of film integrity at 1057 quarts sand.
 3. Accelerated weathering resistance, when tested in accordance with ASTM G 23: No deterioration after 2000 hours.
 4. Freeze/thaw resistance, when tested in accordance with EIMA 101.01: No deleterious effects after 60 cycles.

5. Mildew resistance, when tested in accordance with MIL Std 810B: passes.
6. Salt spray resistance, when tested in accordance with ASTM B 117: No deleterious effects after 300 hours.
7. Water penetration, when tested in accordance with ASTM E 331: no water penetration to the innermost surface of the test specimen.
8. Moisture resistance, when tested in accordance with ASTM D 2247: No deleterious effects after 14 days.
9. Full-scale diversified fire test, in accordance with ASTM E 108 (modified): No significant contribution to vertical or horizontal flame spread.
10. Full-scale multi-story fire test, in accordance with UBC Standard 25-4: Pass the following:
 - a. Resistance to vertical spread of flame within core of panel from one story to the next.
 - b. Resistance to flame propagation over exterior surface.
 - c. Resistance to vertical spread of flame interior surface from one story to the next.
 - d. Resistance to significant lateral spread of flame from compartment of fire origin to adjacent spaces.
11. Radiant heat exposure, in accordance with National Building Code (1996 Edition), Section 1406.0, and Standard Building Code (1994 Edition), Section 2603.5: No ignition at 20 minutes.
12. Impact Resistance: Conform to the following EIMA 101.86 classification:
 - a. Standard: 25 to 49 inch-pounds.
13. Wind Load Resistance: Using an assembly on 18 gage metal framing spaced at 16 inches on center, withstand 323 psf positive pressure and 239 psf negative pressure without damage, when tested in accordance with ASTM E 330.
14. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 450 or less, for adhesive, insulation board, reinforced base coat, and finish coat, when tested in accordance with ASTM E 84.
15. Alkali resistance of reinforcing mesh, in accordance with EIMA 105.01: Greater than 120 pounds per linear inch tensile strength retained.
16. Tensile adhesion, in accordance with EIMA 101.03: No failure in adhesive, base coat, or finish coat; minimum 5 psi before and after accelerated weathering and freeze/thaw exposure.
- B. Surface Preparation Materials: Manufacturer's proprietary materials indicated, specified in manufacturer's instructions, or recommended by manufacturer to prepare substrates for correct application of EIFS materials, including the following:
 1. Surface Conditioner: Acrylic-based surface sealer and hardener for chalking substrates or highly absorptive substrates.
- C. Air/Weather Barrier: Manufacturer's proprietary materials indicated, specified in manufacturer's instructions, or recommended by manufacturer to prepare substrates for correct application of EIFS materials, including the following:
 1. Barrier: 100% acrylic product, field mixed with Portland cement to manufacturer's requirements.
 2. Grid Tape: Open weave fiberglass grid tape with pressure sensitive adhesive.
 3. Flashing Tape: High density, polyethylene backed tape with rubberized asphalt adhesive.
 4. Flashing Tape Conditioner: Water-based surface conditioner and adhesion promoter for flashing tape.
- D. Starter Track: Starter Trac and Starter Trac with drip edge, UV treated PVC "J" channels with weep holes.

- E. Drainage Strip: Corrugated plastic drainage sheet material.
- F. Adhesive: Type as recommended by system manufacturer for substrate and exposure.
- G. Insulation Board for Above-Grade Applications: Expanded polystyrene insulation board supplied by EIFS materials manufacturer, conforming to ASTM C 578, Type I, and EIMA Guideline Specification for Expanded Polystyrene (EPS) Insulation Board, nominal 1.0 pound per cubic foot density.
- H. Base Coat: Non-cementitious, fiber-reinforced, acrylic base coating.
- I. Low Slope Coating (Coping Cap): Acrylic emulsion, Portland cement and fine fiber reinforced flexible low slope surface waterproofing system.
- J. Reinforcing Mesh: Open-weave glass-fiber fabric with alkaline-resistant coating.
 - 1. Standard Mesh: Nominal 4.8 ounces per square yard symmetrical, interlaced fabric, with minimum 25 percent by weight alkaline-resistant coating.
 - 2. High-Impact Mesh: Nominal 11.2 ounces per square yard interwoven fabric.
- K. Detailing Mesh: Nominal 4.5 ounces per square yard flexible symmetrical, interlaced, glass-fiber fabric, with alkaline-resistant coating.
- L. Corner Reinforcing Mesh: Nominal 6.25 ounces per square yard pre-creased open-weave woven glass-fiber fabric, with alkaline-resistant coating.
- M. Finish Coating: STO Limestone, Drivit Limestone, or approved equivalent.
 - 1. Type: Acrylic-based, mildew resistant, textured coating, with acrylic primer tinted to match.
 - 2. Color: Selected from full range of manufacturer's standard selections.

2.03 ACCESSORY MATERIALS

- A. Joint Sealant: Comply with EIMA Standard 300.01; minimum 50 percent elongation and ASTM C 920.
- B. Portland Cement: ASTM C 150, Type I.
- C. Exterior Wall Sheathing: Exterior wall sheathing board shall be 1/2 inch thick fire-retarding gypsum board "Dens-Glass Gold" as manufactured by Georgia-Pacific or approved equal.
- D. Fasteners: As recommended by EIFS manufacturer.
- E. Water: Clean, potable, not containing materials which would impair appearance or performance of coating materials.

2.04 MIXES

- A. Mix materials specified to be site-mixed in accordance with manufacturer's mixing instructions; do not dilute finish coatings except as instructed. Mix in containers free of dirt and other foreign substances.
- B. Mix only enough materials that can be applied during working time recommended by manufacturer; do not retemper mixes.
- C. Do not add anti-freeze admixtures or other admixtures that may adversely affect performance or appearance of coating materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Inspect substrates to receive EIF systems for the following:
 - 1. Contamination: Presence of foreign matter which might affect coating performance or appearance.
 - 2. Delamination, damage, defects, or deterioration.
 - 3. Cracking: Measure widths of cracks; record locations.
 - 4. Surface absorption and chalking.

5. Moisture content: Use moisture meter of type recommended by manufacturer to determine if moisture content is within limits recommended by manufacturer.
 6. Surface plane within tolerances required in manufacturer's instructions.
 7. Installation of exterior gypsum sheathing conforming to GA 253.
- B. Verify that joints in substrates are in accordance with EIFS manufacturer's recommendations.
 - C. Verify proper attachment of sheathing.

3.02 PREPARATION

- A. Correct unacceptable conditions before proceeding.
- B. Protect surfaces adjacent to locations of EIF system installation; do not allow EIF system materials on surfaces not indicated to receive them.
- C. Prepare substrates to receive EIF system materials in accordance with manufacturer's instructions and as follows:
 1. Remove loose, damaged, or deteriorated materials.
 2. Repair surface defects using patching and leveling material.
 3. Repair surface cracks using patching and leveling material, or patching and leveling material with fabric reinforcement, according to manufacturer's recommendations for crack size.
 4. Replace damaged sheathing.

3.03 INSTALLATION

- A. Install EIF system components in accordance with manufacturer's printed instructions and recommendations including preparation of window and door openings, installation of concealed flashing and head and sill of openings and installation of framing and trim accessories.
- B. Apply prime and finish coats in accordance with manufacturer's instructions; do not exceed manufacturer's recommended spread rate for coating materials.
- C. Do not apply coatings over sealant joints, cold joints, expansion joints, or control joints.
- D. Provide impact mesh for the full height of walls accessible from grade.
- E. Finish final coats to match accepted sample.
- F. Seal all joints between EIF system and adjacent materials using specified sealant.

3.04 PROTECTION

- A. Protect installed EIF system from damage by subsequent construction activities.
- B. Repair installed EIF system, if damaged by subsequent construction activities, in accordance with manufacturer's recommendations, so repairs are not visible at a distance of 10 feet. If damaged areas of EIF system cannot be repaired acceptably, replace system components to nearest adjacent joints.

3.05 CLEAN UP

- A. Leftover material shall be removed from the job site.
- B. Wall surfaces adjacent to the system and the general work area shall be cleaned of any foreign material resulting from the basecoat or finish application.

END OF SECTION

SECTION 07 41 13
STANDING-SEAM METAL ROOF PANELS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Attached to these specifications is a Report of Asbestos Containing Materials provided by the owner. Note: some existing roofing materials contains asbestos.

1.02 SUMMARY

- A. Section includes demolition of existing roofing materials and architectural standing-seam metal roof panels.
- B. Certain existing materials contain asbestos. Roofing contractor will remove this material and dispose of the material in compliance with federal, state, and local ordinance.

1.03 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Meet with Owner, Architect, Owner's insurer if applicable, metal panel Installer, metal panel manufacturer's representative, structural-support Installer, and installers whose work interfaces with or affects metal panels, including installers of roof accessories and roof-mounted equipment.
 - 2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 3. Review methods and procedures related to metal panel installation, including manufacturer's written instructions.
 - 4. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
 - 5. Review structural loading limitations of deck during and after roofing.
 - 6. Review flashings, special details, drainage, penetrations, equipment curbs, and condition of other construction that affect metal panels. hardware
 - 7. Review governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.
 - 8. Review temporary protection requirements for metal panel systems during and after installation.
 - 9. Review procedures for repair of metal panels damaged after installation.
 - 10. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.04 SUBMITTALS

- A. Product Data: For each type of product
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
- B. Shop Drawings:
 - 1. Show plan of panel layout and how, if needed, expansion and contraction of material is provided using stationary cleats or expansion cleats. Shop drawings to be reviewed and approved by roofing manufacturer before being submitted.
 - 2. Show details at eave, ridge, hip, valley, rake, cricket, flashings, penetrations and any special details.

3. Accessories: Include details of the flashing, trim, and anchorage systems, at a scale of not less than 1-1/2 inches per 12 inches.
4. Include sufficient technical data to demonstrate compliance with the following specific requirements:
 - a. Clip spacing calculations to meet local and state codes and design criteria included on drawing S0.1. prepared for this specific project and sealed by a Professional Engineer licensed in the commonwealth of Virginia.
- C. Samples for Initial Selection: For each type of metal panel indicated with factory-applied color finishes.
 1. Include similar Samples of trim and accessories involving color selection.
- D. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.
 1. Metal Panels: 12 inches long by actual panel width. Include clips, fasteners, closures, and other metal panel accessories.

1.05 INFORMATIONAL SUBMITTALS

- A. Qualification Data: for demolition personnel and installer.
- B. Product Test Reports: For each product, for tests performed by a qualified testing agency.
- C. Field quality-control reports.
- D. Sample Warranties: For special warranties.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For metal panels to include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Demolition worker qualifications:
 1. Certification of training for removal of asbestos containing roofing materials. One copy of each certification to be retained on site in the offices of the general contractor.
- B. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
 1. Installer must be proven, experienced applicator who has completed similar project details along with owner, architect and general contractor references.
 2. Provide manufacturers certification that the system installation crews have been trained and meet weather tightness warranty qualifications prior to bid date. If panels are manufactured on the site, certify that the machine operators have been trained and that equipment meets specified requirements.
 3. Use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work.
- C. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.
- D. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
 1. Build mockup of typical roof area and eave as shown on Drawings; approximately 48 inchessquare by full thickness, including attachments, underlayment, and accessories.
 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.
- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on metal panels during installation.

1.09 FIELD CONDITIONS

- A. Environmental cleanliness: Subsequent to demolition operations and prior to installation of new roofing materials, the roofing contractor will cause to have certified the removal of asbestos containing material related to roofing demolition insofar as is required by ordinance.
- B. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

1.10 COORDINATION

- A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.
- B. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.11 GUARANTEE/WARRANTY

- A. Special Warranty on Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace sheet metal roofing that shows evidence of deterioration of factory applied finishes within specified warranty period.

1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:

- a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
- b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
- c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

Finish Warranty Period: 35 years from date of substantial completion.

- B. Special Warranty on Panel Integrity: Manufacturer's standard form in which manufacturer replace metal panels that show evidence of deterioration as follows:

- a. Structural failures including rupturing, cracking, or puncturing.
- b. Deterioration of metals and other materials beyond normal weathering.

Warranty Period: 25 years from date of Substantial Completion.

- C. Special Project Warranty: Provide written "weathertightness" warranty, signed by manufacturer of primary roofing materials and his authorized installer, agreeing to replace/repair defective material and workmanship. "Defective Materials and Workmanship" shall be defined to include any portion of the roofing system which leaks during the warranty period. Include copy of sample warranty with the bid. Include all flashings, penetrations, curbs, etc.

- 1. Warranty Period: 20 years from date of Substantial Completion. Non-prorated and no dollar limit.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592:
 - 1. Wind Loads: As indicated on structural Drawing S0.1.
- B. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. when tested according to ASTM E 1680 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 1.57 lbf/sq. ft..
- C. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E 1646 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 2.86 lbf/sq. ft. (137 Pa).
- D. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.
 - 1. Uplift Rating: UL 90.
- E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F , ambient; 180 deg F, material surfaces .

2.02 STANDING-SEAM METAL ROOF PANELS

- A. Materials
 - 1. Aluminum-Zinc Alloy Coated Steel Sheet: ASTM A 792/A 792M, Class AZ 50 coating designation, Grade 40 (Class AZM150 coating designation, Grade 275); structural quality.
 - 2. Panel height: 1-1/2"
 - 3. Use UL rated clips and screws. Spacing per Professional Engineering Calculation.
 - 4. Use fasteners for clips of sizes that meet engineering requirements.
- B. General: Provide formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.
 - 1. Steel Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E 1514.
- C. Vertical-Rib, Seamed-Joint, Standing-Seam Metal Roof Panels : Formed with vertical ribs at panel edges and a flat pan between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and mechanically seaming panels together.
- D. Available manufacturers:
 - a. Englert, Inc – BASIS OF DESIGN.
 - b. CENTRIA Architectural Systems.
 - c.. Berridge Manufacturing Company
 - d. Firestone Metal Products, LLC.
 - e. MBCI; a division of NCI Building Systems, L.P.
 - f. McElroy Metal, Inc.
- 2. Color: Selected from manufacturers standard line. Provide additive alternate bid amount to supply and install premium metallic finish color panels.

2.03 UNDERLAYMENT MATERIALS

- A. Self-Adhering, High-Temperature Underlayment: Provide self-adhering, cold-applied, sheet underlayment, a minimum of 30 milsthick, consisting of slip-resistant, polyethylene-film top surface laminated to a layer of butyl or SBS-modified asphalt adhesive, with release-paper backing. Provide primer when recommended by underlayment manufacturer.
 - 1. Thermal Stability: Stable after testing at 240 deg F; ASTM D 1970.
 - 2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F; ASTM D 1970.
 - 3. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following]:
 - a. Carlisle Residential, a division of Carlisle Construction Materials; WIP 300HT.
 - b. Grace Construction Products, a unit of W. R. Grace & Co.; Ultra.
 - c. Henry Company; Blueskin PE200 HT.
 - d. Kirsch Building Products, LLC; Sharkskin Ultra SA.
 - e. Owens Corning; WeatherLock Metal High Temperature Underlayment.
- B. Slip Sheet: Per Manufacturer's recommendation, if necessary, of type required for application.

2.04 MISCELLANEOUS MATERIALS

- A. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
 - 1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
 - 2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
 - 3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch-(25-mm-) thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- B. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers and step flashing at adjacent to masonry walls. Finish flashing and trim with same finish system as adjacent metal panels.
- C. Gutters: Formed from same material as roof panels, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch- long sections, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Furnish gutter supports spaced a maximum of 36 inches o.c., fabricated from same metal as gutters. Provide wire ball strainers of compatible metal at outlets. Finish gutters to match metal roof panels roof fascia and rake trim.
- D. Panel Fasteners: Self-tapping screws designed to withstand design loads.
- E. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
 - 1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch(3 mm) thick.
 - 2. Joint Sealant: ASTM C 920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.
 - 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

2.05 FABRICATION

- A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- C. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.
 - 1. Project Details require "old style" appearance for the following:
 - a. Manufacturers version of a narrow profile, "old style" combed ridge detail.
 - b. Manufacturers version of a pleated seam slope transition detail from a single panel without use of slope transition flashing.
 - c. Manufacturers version of old style mechanical field standing seam.
- D. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Custom fabricate all flashings by obtaining field dimensions for accurate fit.
 - 1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
 - 2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
 - 3. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
 - 4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
 - 5. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.
 - a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal panel manufacturer for application, but not less than thickness of metal being secured.

2.06 FINISHES

- A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are unacceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
 - 1. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel manufacturer.

2. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.
 - a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written recommendations.

3.03 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated below, wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps with roller. Cover underlayment within 14 days.
 1. Apply over the entire roof surface.
- B. Slip Sheet: Apply slip sheet over underlayment before installing metal roof panels if recommended by manufacturer.
- C. Flashings: Install flashings to cover underlayment to comply with requirements specified in Section 076200 "Sheet Metal Flashing and Trim."

3.04 METAL PANEL INSTALLATION

- A. General: Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 1. Shim or otherwise plumb substrates receiving metal panels.
 2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.
 3. Install screw fasteners in predrilled holes.
 4. Locate and space fastenings in uniform vertical and horizontal alignment.
 5. Install flashing and trim as metal panel work proceeds.
 6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
 7. Align bottoms of metal panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
 8. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.
- B. Fasteners:
 1. Steel Panels: Use stainless-steel fasteners for surfaces exposed to the exterior; use galvanized-steel fasteners for surfaces exposed to the interior.
- C. Anchor Clips: Anchor metal roof panels and other components of the Work securely in place, using manufacturer's approved fasteners according to professional engineers written instructions and details.
- D. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.

- E. Standing-Seam Metal Roof Panel Installation: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended in writing by manufacturer.
 - 1. Install clips to supports with self-tapping fasteners.
 - 2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
 - 3. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.
 - 4. Watertight Installation:
 - a. Apply a continuous ribbon of sealant or tape to seal joints of metal panels, using sealant or tape as recommended in writing by manufacturer as needed to make panels watertight.
 - b. Provide sealant or tape between panels and protruding equipment, vents, and accessories.
 - c. Panel splices are not permitted.
- F. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
 - 1. Install components required for a complete metal panel system including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal roof panel manufacturers; or, if not indicated, types recommended by metal roof panel manufacturer.
- G. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
 - 1. Install exposed flashing and trim that is without buckling and tool marks, and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and achieve waterproof and weather-resistant performance.
 - 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- H. Gutters: Join sections with riveted and soldered or lapped and sealed joints. Attach gutters to eave with gutter hangers spaced not more than 36 inches o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.
- I. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to metal roof panels as recommended by manufacturer.

3.05 ERECTION TOLERANCES

- A. Installation Tolerances: Shim and align metal panel units within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.06 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect metal roof panel installation, including accessories. Report results in writing.

- B. Remove and replace applications of metal roof panels where tests and inspections indicate that they do not comply with specified requirements.
- C. Additional tests and inspections, at Contractor's expense, are performed to determine compliance of replaced or additional work with specified requirements.
- D. Prepare test and inspection reports.

3.07 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
- B. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 41 13

SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fabricated sheet metal items, including flashings, counterflashings, gutters, downspouts, and other items shown on the drawings.
- B. Reglets and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Wood nailers.
- B. Section 06 10 00 - Rough Carpentry: Wood blocking for batten seams.

1.03 REFERENCE STANDARDS

- A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; American Architectural Manufacturers Association; 1998.
- B. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2005.
- C. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2009a.
- D. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2007.
- E. ASTM B 209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate Metric; 2007.
- F. ASTM B 370 - Standard Specification for Copper Sheet and Strip for Building Construction; 2009.
- G. ASTM D 4479 - Standard Specification for Asphalt Roof Coatings - Asbestos-Free; 2007.
- H. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007.
- I. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association; 2003.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
- C. Samples: Submit two samples 12x12 inch in size illustrating metal finish color.

1.06 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise indicated.
- B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 3 years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

- A. Galvanized Steel: ASTM A 653/A 653M, with G90/Z275 zinc coating; minimum 0.02 inch thick base metal.
- B. Aluminum: ASTM B 209 (ASTM B 209M); 0.032 inch thick; mill finish.
 - 1. Uses: concealed flashings
- C. Pre-Finished Aluminum: ASTM B 209 (ASTM B 209M); 0.064 inch thick; plain finish shop pre-coated with fluoropolymercoating.
 - 1. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system.
 - 2. Color: As selected by Summit Studio from manufacturer's custom colors. Dark Bronze to match storefront
 - 3. Uses: All roof edges, gutter facias, Storefront receiving channel, and associated trim
- D. Pre-Finished Aluminum: ASTM B 209 (ASTM B 209M); 0.064 inch thick; plain finish shop pre-coated with fluoropolymercoating.
 - 1. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system.
 - 2. Color: As selected by Summit Studio from manufacturer's standard colors.
 - 3. Uses: All roof interior of gutters, sub sill flashing, thru-wall flashing, misc flashing.
- E. Copper: ASTM B370, cold rolled 16 oz/sq ft thick; natural finish.

2.02 ACCESSORIES

- A. Fasteners: Galvanized steel , with soft neoprene washers.
- B. Primer: Zinc chromate type.
- C. Plastic Cement: ASTM D 4586, Type I.

2.03 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Fabricate cleats of same material as sheet, minimum 2 inches wide, interlocking with sheet. Some cleats are integral with adjoining trim material - see sections and details.
- C. Form pieces in longest possible lengths.
- D. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- E. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- F. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.
- G. Fabrication to profiles indicated on the drawings shall be accomplished prior to application of finish by the storefront manufacturer.

2.04 GUTTER AND DOWNSPOUT FABRICATION

- A. Gutters: SMACNA Architectural Sheet Metal Manual, Rectangular profile.
- B. Downspouts: Rectangular profile.
- C. Gutters and Downspouts: Size of gutter as indicated on the drawings. Downspouts are 3" round minimum see section 07 63 10.
- D. Accessories: Profiled to suit gutters and downspouts.
 - 1. Anchorage Devices: In accordance with SMACNA requirements.
 - 2. Gutter Supports: Brackets.
 - 3. Downspout Supports: Brackets.
- E. Downspout Boots: Steel.
- F. Seal metal joints.

END OF SECTION

SECTION 07 63 10

CONDUCTOR HEADS AND DOWNSPOUTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Pre-finished aluminum downspouts and conductor heads.

1.02 RELATED SECTIONS

- A. Section 07 62 00 - Sheet Metal Flashing and Trim.

1.03 REFERENCES

- A. ASTM B 209/ B 209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- B. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.
- C. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association.

1.03 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate locations, material profile, configurations, jointing methods, fastening methods, locations, and installation details.

1.04 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise indicated.

1.05 DELIVERY, STORAGE, AND PROTECTION

- A. Stack material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope to drain.
- B. Prevent contact with materials during storage that may cause discoloration, staining, or damage.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Pre-Finished Aluminum Sheet: ASTM B 209/B 209M; 0.040 inch thick for conductor heads; 0.032 inch thick for downspouts.
 - 1. Finish: Fluoropolymer coating finish; two coat, shop applied, baked on 70% fluoropolymer coating system based on Elf Atochem, Kynar 500 Resin.
 - 2. Color: Selected by the architect from the manufacturers full range.

2.02 COMPONENTS

- A. Conductor Heads: Fabricate with flanged back and stiffened top edge to profile and size indicated complete with outlet tubes; 0.040-inch thick aluminum; install in accordance with SMACNA, Figure 1-26 with Detail 2 Alternate for lower edge.
 - 1. Finish: Color as indicated in Exterior Finish Schedule.
- B. Downspouts: Profile as indicated complete with mitered elbows; 0.032-inch thick aluminum. Furnish with metal hangers, from same material as downspouts, and anchors.
 - 1. Finish: Color as selected by the architect.

- C. Anchors and Supports: Profiled to suit downspouts.
 - 1. Anchoring Devices: In accordance with SMACNA requirements.
 - 2. Downspout Supports: Straps.
- D. Fasteners: Same material and finish as conductor heads and downspouts, with soft neoprene washers.

2.03 FABRICATION

- A. Custom fabricate sheet metal conductor heads and downspouts to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.
- B. Form conductor heads and downspouts of profiles and size indicated. Fabricate with required connection pieces.
- C. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
- D. Form sections square, true, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance. Allow for expansion at joints.
- E. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
- F. Fabricate conductor headers and downspout accessories; seal watertight.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that surfaces are ready to receive work.

3.02 INSTALLATION

- A. Install conductor heads, downspouts, and accessories in accordance with manufacturer's instructions.
- B. Install downspouts at each of the building corners and where existing connections to internal gutter exist on the east façade. Carry downspouts to grade and extend away from building face a minimum of 4' using black PVC grade piping
- C. Solder metal joints for full metal surface contact. After soldering, wash metal clean with neutralizing solution and rinse with water.

END OF SECTION

SECTION 07900

JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sealants and joint backing.

1.02 RELATED SECTIONS

- A. Section 07240 - Exterior Insulation and Finish System.
- B. Section 07260 - Air Infiltration Barrier: Sealants required in conjunction with air barriers.
- C. Section 07415 - Composite Wall and Soffit Panels: Sealants required in conjunction with air barriers.
- D. Section 07620 - Sheet Metal Flashing and Trim.
- E. Section 08800 - Glazing: Glazing sealants and accessories.
- F. Section 09260 - Gypsum Board Assemblies: Acoustic sealant.

1.03 REFERENCES

- A. ASTM C 834 - Standard Specification for Latex Sealants.
- B. ASTM C 919 - Standard Practice for Use of Sealants in Acoustical Applications.
- C. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants.
- D. ASTM C 1193 - Standard Guide for Use of Joint Sealants.
- E. ASTM D 1667 - Standard Specification for Flexible Cellular Materials--Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam).

1.04 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating sealant chemical characteristics.
- C. Caulking Schedule: The Contractor, together with the manufacturer's selected from those specified, shall prepare a detailed schedule of caulking and sealing work. For all conditions, the schedule shall indicated joint function; materials forming the joint together with cleaning, preparation, and backing requirements; priming requirements; sequence and timing of caulking and sealing operations showing maximum allowable time intervals between successive steps in sealing operations, and governing weather conditions including temperature, humidity, wind, etc., and requirements for storage and preconditioning of materials.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing the work of this section with minimum three years experience.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation. Install in dry weather or conditions favorable for curing.

1.07 COORDINATION

- A. Coordinate the work with all sections referencing this section.

1.08 WARRANTY

- A. See Section 01780 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a five-year period after Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories which fail to achieve airtight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Silicone Sealants:
 - 1. Dow Corning Corp.; Product 790/791: www.dowcorning.com.
 - 2. GE Plastics; Product Silpruf: www.geplastics.com.
 - 3. Pecora Corporation.; Product 864/890: www.pecora.com.
 - 4. Sonneborn Building Products, ChemRex, Inc; Product Omni Seal: www.chemrex.com.
 - 5. Tremco, Inc.; Product Spectrum 2: www.tremcosealants.com.
 - 6. Substitutions: See Section 01600 - Product Requirements.
- B. Acrylic Emulsion Latex Sealants:
 - 1. Pecora Corporation.; Product AC-20: www.pecora.com.
 - 2. Tremco, Inc.; Product 834: www.tremcosealants.com.
 - 3. Substitutions: See Section 01600 - Product Requirements.

2.02 SEALANTS

- A. Low Modulus Silicone Sealant: Neutral curing; ASTM C 920, Grade NS, Class 25, Uses N, T, G A, M and O; single component.
 - 1. Color: Standard colors matching finished surfaces.
 - 2. Product: 864/890 manufactured by Pecora or approved equal.
 - 3. Applications: Use for:
 - a. Control, expansion, and soft joints in masonry.

- b. Joints between concrete and other materials.
 - d. Other exterior joints for which no other sealant is indicated.
- B. Custom Color Silicone Sealant: Neutral curing; ASTM C 920, Grade NS, Class 25, Uses N, T, G A, M and O; Two component.
 - 1. Color: Custom colors matching siding and EIFS finished surfaces.
 - 2. Product: Two Component Field Tintable Silicone Sealant manufactured by Pecora or approved equal.
 - 3. Applications: Use for:
 - a. Joints between painted siding and other materials.
 - b. Joints between exterior insulation and finish system and other materials.
- C. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C 834, Type OP, Grade NF single component, paintable.
 - 1. Color: Standard colors matching finished surfaces.
 - 2. Product: AC-20 manufactured by Pecora or approved equal.
 - 3. Applications: Use for:
 - a. Interior wall and ceiling control joints.
 - b. Joints between door and window frames and wall surfaces.
 - c. Other interior joints for which no other type of sealant is indicated.
- D. Bathtub/Tile Sealant: White silicone; ASTM C 920, Uses I, M and A; single component, mildew resistant.
 - 1. Product: 898 Sanitary Silicone manufactured by Pecora, Sanitary 1700 AS as manufactured by General Electric or approved equal.
 - 2. Applications: Use for:
 - a. Joints between plumbing fixtures and floor and wall surfaces.
 - b. Joints between kitchen and bath countertops and wall surfaces.
- E. Acoustical Sealant: Butyl or acrylic sealant; ASTM C 920, Grade NS, Class 12-1/2, Uses M and A; single component, solvent release curing, non-skinning.
 - 1. Product: AC-20 FTR Acoustical and Insulation Sealant manufactured by Pecora Corp. or approved equal.
 - 2. Applications: Use for concealed locations only:
 - a. Sealant bead between top stud runner and structure and between bottom stud track and floor.

2.03 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC;

oversized 30 to 50 percent larger than joint width.

- C. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

- A. Remove loose materials and foreign matter which might impair adhesion of sealant.
- B. Clean, dry, and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C 1193.
- D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C 1193.
- C. Perform acoustical sealant application work in accordance with ASTM C 919.
- D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- E. Install bond breaker where joint backing is not used.
- F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- G. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- H. Tool joints concave.

3.04 CLEANING

- A. Clean adjacent soiled surfaces.

3.05 PROTECTION OF FINISHED WORK

- A. Protect sealants until cured.

END OF SECTION

SECTION 08610
ROOF WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Production fabricated wood roof window with exterior maintenance free cladding, manually operated with manually operated accessories.

1.03 QUALITY ASSURANCE

- A. Wood roof window with exterior maintenance free cladding and all accessories and components required for complete and weatherproof installation shall be manufactured to the highest standards of quality and craftsmanship.

1.04 SYSTEM DESCRIPTION

- A. Roof Window: Wood frame and sash, exterior maintenance free cladding, production fabricated flashings, glass and glazings and anchorage.
- B. Configuration: Top hinged, spring assisted sash. Hinge pivots for easy cleaning of the glass from inside the room.

1.05 PERFORMANCE REQUIREMENTS

- A. Limit member deflection to flexure limit of glass with full recovery of glazing materials.
- B. System to accommodate, without damage to components or deterioration of seals, movement between sash and frame and perimeter framing.
- C. Gasketing designed to drain water entering joints, condensation occurring in glazing channel, or migrating moisture occurring within system, to exterior by drainage network.
- D. Roof Window sash designed to open a full 45 degrees to satisfy minimum requirements for emergency egress.

1.06 SUBMITTALS

- A. Manufacturer's unit dimensions, rough opening and finished framing dimensions, affected related work, and installation requirements are shown in manufacturer's installation instructions.
- B. Product Data: glazing options, accessories, and manual control options of roof window and accessories are indicated in manufacturer's printed material.

1.07 DELIVERY, HANDLING, STORAGE

- A. Deliver products in manufacturer's original containers, dry, undamaged, seals and labels intact.
- B. Store and protect products in accordance with manufacturer's recommendations.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. VELUX product Model GPL operable roof window and flashing systems as specified in this section and as manufactured by VELUX America Inc. Model MO8.
- B. Approved substitution

2.02 MATERIALS

- A. Wood: Kiln-dried laminated Nordic Pine, with clear TOPfinish temporarily treated for mold and mildew.
- B. Maintenance free exterior cladding: Roll formed [0.65 aluminum] [0.60 copper] prefinished, production engineered, and fabricated to fit exterior exposed surfaces.

2.03 COMPONENTS

- A. Weather stripping: Factory applied neoprene weather stripping throughout entire frame and sash profiled to effect weather seal.

- B. Fittings: Surface treatment with electro-galvanized, chromate passivated yellow.
- C. Prefabricated step flashing system designed for use with roofing materials less than 3/4" thick and for slopes of 3:12 (15 degrees) to 85 degrees.

2.04 GLASS AND GLAZING MATERIALS

- A. Standard 1" (25.4mm) overall dual sealed insulated glass unit with 9/16" (14mm) air space. Stainless steel spacer with desiccant, primary seal polyisobutylene, secondary seal silicone.
- B. Gasketing: Each I.G. unit dry glazed with chloroprene gasket, no sealants.
- C. Glazing
Type 73 laminated Low-E: Exterior lite 4mm (5/32") clear annealed with Low-E² coating, 14mm (9/16") air space filled with argon gas; interior lite two plies of 3mm (1/8") heat-strengthened laminated with .015" vinyl interlayer.

2.05 HARDWARE

- A. Sash: Top hinged, spring assisted. Hinge pivots, allowing for easy cleaning of the glass from inside the room.

2.06 FABRICATION

- A. Fabricate frame with slip/lock corners, glued and nailed for hairline, weather tight fit.
- B. Fabricate frame components within minimum tolerances, enabling installation and movement of sash and dynamic movement of perimeter weather stripping.
- C. Permit external drainage channels to migrate moisture to exterior. Provide internal drainage of glazing spaces to exterior through gasketing.
- D. All units factory glazed with chloroprene gasketing.

2.07 FINISHES

- A. Exterior surfaces: Exposed exterior wood surfaces to be covered with roll formed maintenance free cladding pieces. Aluminum has umber grey, Kynar 500 polyvinylidene fluoride resin finish. Copper is roll formed mill finish.
- B. Maintenance free flashing: Roll formed aluminum, umber grey, baked on polyester polyamid primer and finish coats. Copper is roll formed mill finish.
- C. Interior surface: All exposed interior wood surfaces to be provided with factory applied clear varnish TOPfinish.
- D. Sash Handle - grey

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify rough opening dimensions and proper orientation of roof window.

3.02 INSTALLATION

- A. Install roof window in accordance with manufacturer's installation instructions.
- B. Align roof window level, free of warp or twist; maintain dimensional tolerances.
- C. Attach roof window to roof sheathing with manufacturer's brackets and screws to accommodate construction tolerances and other irregularities.
- D. Provide thermal isolation when components penetrate or disrupt building insulation. Pack fibrous insulation in rough opening to maintain continuity of thermal barriers.
- E. Coordinate attachment and seal of perimeter air and vapor barrier material.
- F. Install sash.
- G. Install manufacturer's engineered perimeter flashing in accordance with manufacturer's installation instructions to achieve weather tight installation.

END OF SECTION

SECTION 09 90 00
PAINTING AND COATING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints.
- C. Scope: Finish exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
 - 1. Exterior side and edges of plywood panels covering infill of windows etc

1.02 DEFINITIONS

- A. Conform to ASTM D 16 for interpretation of terms used in this section.

1.03 REFERENCE STANDARDS

- A. ASTM D 16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2008.
- B. ASTM D 4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.
- C. SSPC (PM1) - Good Painting Practice: SSPC Painting Manual, Vol. 1; Society for Protective Coatings; Fourth Edition.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on all finishing products, including VOC content.
- C. Samples: Submit two paper chip samples, 3x3 inch in size illustrating range of colors and textures available for each surface finishing product scheduled.
- D. Samples: Submit two painted samples, illustrating selected colors and textures for each color and system selected with specified coats cascaded. Submit on tempered hardboard, 12x12 inch in size.
- E. Certification: By manufacturer that all paints and coatings comply with VOC limits specified.
- F. Manufacturer's Instructions: Indicate special surface preparation procedures.
- G. Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.
- B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 3 years experience.

1.06 MOCK-UP

- A. See Section 01 40 00 - Quality Requirements, for general requirements for mock-up.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.08 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- E.. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide all paint and coating products from the same manufacturer to the greatest extent possible.
- B. Paints:
 - 1. Base Manufacturer: See Section 09 91 00.
 - 2. Sherwin Williams Paints: www.sherwinwilliams.com.
- C. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
 - 1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - 2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
 - 3. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
 - 4. Supply each coating material in quantity required to complete entire project's work from a single production run.
 - 5. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
- C. Volatile Organic Compound (VOC) Content: Comply with Section 01 61 16.
- D. Colors: To be selected from manufacturer's full range of available colors.
 - 1. Selection to be made by the Owner after award of contract.
 - 2. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Warm Hearth Village.
 - 3. Extend colors to surface edges; colors may change at any edge as directed by the Owner.
 - 4. Several paint colors are indicated in the drawing set, on the ID sheets. These colors represent only a portion of the colors in the project.

2.03 PAINT SYSTEMS - Exterior

- A. WOOD-
 - 1. Latex Systems
 - a. Semi-Gloss Finish

- 1) 1st Coat: S-W Exterior Latex Wood Primer, B42W8041
(4 mils wet, 1.4 mils dry)
- 2) 2nd Coat: S-W Metalatex Acrylic Semi-Gloss, B42 Series
- 3) 3rd Coat: S-W Metalatex Acrylic Semi-Gloss, B42 Series
(4 mils wet, 1.5 mils dry per coat)

F. ACCESSORY MATERIALS

1. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.
2. Patching Material: Latex filler.
3. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin application of coatings until substrates have been properly prepared.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- D. If substrate preparation is the responsibility of another installer, notify the Owner of unsatisfactory preparation before proceeding.
- E. Test shop-applied primer for compatibility with subsequent cover materials.
- F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 1. Exterior Wood: 15 percent, measured in accordance with ASTM D 4442.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to coating application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or repair existing coatings that exhibit surface defects.
- D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- E. Seal surfaces that might cause bleed through or staining of topcoat.
- F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- G. Exterior Wood Surfaces to Receive Opaque Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior calking compound after prime coat has been applied. Back prime concealed surfaces before installation.

3.03 APPLICATION

- A. Exterior Wood to Receive Opaque Finish: If final painting must be delayed more than 2 weeks after installation of woodwork, apply primer within 2 weeks and final coating within 4 weeks.
- B. Apply products in accordance with manufacturer's instructions.
- C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- D. Apply each coat to uniform appearance.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection.

3.05 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

END OF SECTION

SECTION 31 23 33
TRENCHING AND BACKFILLING

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: Excavation and preparation of trenches as shown on the plans and specified herein, backfilling and site restoration.

1.02 REFERENCES

- A. General: The work shall comply with the most recent standards or tentative standards as published at the date of the contract and as listed in this specification using the abbreviation shown.
- B. American Society for Testing and Materials Publications (ASTM) :
1. D448 Standard Classification for Sizes of Aggregate for Road and Bridge Construction
 2. D698 Test Method for Laboratory Compaction Characteristics of Soils Using Standard Effort (12,400 ft-lbf/ft³)
 3. D1556 Standard Test Method for Density and Unit Weight of Soil In Place by the Sand-Cone Method
 4. D2167 Standard Test Method for Density and Unit Weight of Soil In Place by the Rubber Balloon Method
 5. D2487 Standard Classification of Soils for Engineering Purposes (unified Soil Classification System)
 6. D4318 Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
 7. D6938 Standard Test Method for In-Place Density and Water Content of Soil and Aggregate by Nuclear Methods (Shallow Depth)
- C. Virginia Department of Labor and Industry - Occupational Safety and Health Standards for the Construction Industry
1. Subpart P Excavations
 2. Subpart U Blasting and the Use of Explosives
- D. Virginia Statewide Fire Prevention Code VR 394-01-6
1. VR 394-01-6

1.03 DEFINITIONS

- A. Controlled Fill: Controlled fill is required beneath all areas on which final grade is not placed on original excavated soil.
- B. Classified Excavation: For the purposes of payment, material shall not be classified except for trench rock, mass rock, and unsuitable material.
- C. Satisfactory Materials: Materials classified by ASTM D2487 as GW, GP, GM, GC, SW, SP, SM, SC, ML, and CL are satisfactory as fill for overlot grading and are satisfactory in-situ.
- D. Unsatisfactory Materials: Materials classified by ASTM D2487 as OL, OH, MH, CH, and PT are unsatisfactory in-situ and as fill. Unsatisfactory materials also include those materials containing roots and other organic matter, trash, debris, frozen materials, and stones larger than 3 inches. Unsatisfactory materials also include man-made fills, refuse, or backfills from previous construction.
- E. Cohesionless and Cohesive Materials: Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Cohesionless materials include materials classified in ASTM D2487 as GW, GP, SW, and SP. Materials classified as GM and SM will be identified as cohesionless only when the fines have plasticity index as measured by ASTM D4318 of zero.

- F. Degree of Compaction: Degree of compaction is a percentage of the maximum density obtained by the test procedure presented in ASTM D698 or ASTM D1557 as specified, abbreviated above as a percent of laboratory maximum density.
- G. Trench Rock: For the purposes of classified excavation, trench rock shall be defined as material encountered in trench excavation that cannot be dislodged by a Caterpillar Model No. 215D-LC track-type hydraulic excavator, equipped with a 42-inch wide short-tip radius rock bucket, rated at not less than 120 hp flywheel power with bucket-curling force of not less than 25,000 lbs and stick-crowd force of not less than 18,000 lbs. Trench rock excavation includes up to 8 inches over-excavation below the required excavation depth. Rock shall be quantified by measuring the extent of rock in the trench, not by measuring the volume of removed rock. This definition of trench rock does not include materials such as hardpan, loose rock, concrete or other materials that can be removed by means other than drilling or breaking, but which for reasons of economy in excavating the CONTRACTOR chooses to remove by drilling or breaking. Reference Bid Form for estimated quantities of trench rock.
- H. Unyielding Material: Unyielding material shall consist of rock and gravelly soils with stones greater than 18 inches in any dimension.
- I. Unstable Material: Unstable material shall consist of materials too wet to properly support the utility pipe, conduit, or appurtenant structure.
- J. Select Granular Material: Select granular material shall consist of well-graded sand, gravel, crushed stone or crushed slag composed of hard, tough and durable particles, and shall not contain more than 10 percent by weight of material passing a No. 200 mesh sieve. The maximum allowable aggregate size shall be 1 inch, or the maximum size recommended by the pipe manufacturer, whichever is smaller.
- K. Initial Backfill Material: Initial backfill material shall consist of select granular material or satisfactory materials free from rocks 1 inch or larger in any dimension.

1.04 QUALITY ASSURANCE

- A. Testing Results: Copies of all laboratory and field test reports shall be submitted to the ENGINEER and OWNER within 72 hours of the completion of the test.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 GENERAL

- A. Classification: Excavation and material shall be unclassified for purposes of payment except for trench rock, mass rock, and unsuitable material.

3.02 CLEARING

- A. General: Only that portion of the work area actually needed for construction shall be cleared unless directed otherwise by the OWNER. In no case shall clearing or debris from clearing operations be taken past rights-of-way lines or designated work areas. Areas disturbed by construction operations shall be protected from erosion by suitable methods outlined in the Virginia Erosion and Sediment Control Handbook.

3.03 EXCAVATION AND PREPARATION OF TRENCH

- A. Depth: Depth of trenches shall be as shown on plans and cut sheets except that the trench shall be excavated to allow for a minimum of 4 inches of bedding in earth and 6 inches of aggregate bedding in rock for storm sewer (reference plan details for bedding of HDPE pipe). For gravity sewer, force main and water main, reference the bedding requirements in the Montgomery County Public Service Authority (MCPSA) specifications and details.
- B. Width: Width shall be sufficient to allow pipe installation without walking or standing on pipe. The trench width at a point 12 inches above the top of the pipe shall not be less than 6 inches and not more than 12 inches on each side of the pipe's largest diameter unless otherwise directed by the ENGINEER.

- C. Unsuitable Material: Wet or otherwise unsuitable soil at the subgrade shall be removed and replaced with compacted ASTM D448 #357 stone to the bottom of the normal trench bedding, at no cost to the OWNER. Excess or unsuitable materials shall be disposed of by the CONTRACTOR.
- D. Rock Excavation: Ledge rock, boulders, and large stones shall be removed to provide a clearance of at least 6 inches below and on each side of all pipe, manholes, valves or other appurtenances and overdepth shall be backfilled with satisfactory material and compacted in conformance with BACKFILLING subsection.
- E. Trench Protection: The CONTRACTOR shall furnish and erect such sheathing, bracing and shoring, and shall furnish necessary signs, barricades and temporary lighting as may be pertinent for the protection of his work, employees, the public, adjacent structures, and to guard against contingencies which might give rise to delays in the work. Sheathing left in place shall be at the CONTRACTOR's expense. Where trench wall sloping is necessary for safety or other reasons, the ENGINEER shall be notified to determine if additional strength pipe will be required. Responsibility for preservation of trench banks and other excavated spaces and the prevention of injury to any persons or property shall rest entirely with the CONTRACTOR. A maximum of 200 feet of trench for each crew will be allowed open at any one time. Trench construction and safety shall be governed by the Occupational Safety and Health Standards for the Construction Industry, Subpart P.
- F. Pumping, Bailing, and Draining: The CONTRACTOR shall remove any water which may accumulate or be found in the trenches or other excavations and shall keep the excavations clear of water while work is being installed, unless approval to the contrary is granted by the ENGINEER.
- G. Blasting: Blasting will not be allowed.
- H. Cleated Equipment: No cleated equipment shall be used on pavements. Road drainage shall not be clogged, and shoulders, ditches, roadside drainage facilities and pavement affected by trenching operations shall be maintained in a condition satisfactory to the OWNER. Entrances shall not be blocked except for short periods as arranged with the property owner, and ingress and egress to adjacent property shall be maintained at all times.

3.04 WASTE AREAS

- A. General: Disposal of unsuitable and surplus material shall be carried out in accordance with local ordinance.

3.05 COORDINATION

- A. General: The CONTRACTOR shall notify the property owner in advance of commencing work and in the event of the necessity of disrupting utility or other services to any property, he shall notify the OWNER or responsible person in charge of such utility or other services and arrange for the disruption and restoration of such service in a manner which will result in a minimum of inconvenience to parties concerned.

3.06 BACKFILLING

- A. Materials: All backfill materials shall be free from mud, refuse, construction debris, organic material, boulders, frozen or otherwise unsuitable material. Initial backfill shall be as defined in this section. Remaining backfill may contain stones up to 4 inches in their greatest dimension, unless otherwise specified. The CONTRACTOR may backfill with the excavated material, provided it meets the conditions as stated above.
- B. Pressure Pipe Bedding: Bedding for pressure pipe shall only be required when trench is in rock, unless shown otherwise on plans, and shall be in accordance with MCPSA standards and details. Bedding material shall be compacted to 95 percent of maximum density as measured by ASTM D698.
- C. Initial Backfill Material: Initial backfill material shall consist of select granular material or satisfactory materials free from rocks 1 inch or larger in any dimension.

- D. Backfilling to Grade: Initial backfill shall be with select material to a depth of at least one foot over the pipe and compacted prior to placement of remaining backfill. Initial backfill shall be placed in lifts not to exceed 6 inches (prior to compaction). Each layer of earth shall be compacted before the next layer is applied. A hydro-hammer shall not be used for compaction. Care shall be taken to prevent damage to pipe or other structures during compaction. Damage to pipelines or other structures resulting from compaction shall be corrected by the CONTRACTOR without expense to the OWNER.
- E. Finished Surfaces: Uniformly smooth grading of disturbed areas shall be required after backfill and compaction. Road shoulders shall have a minimum depth of 6 inches of VDOT #25 or #26 crusher run aggregate, compacted to a minimum 95 percent of maximum density as measured by ASTM D698. Ditches and gutters shall be finished to drain readily. In grass or lawn areas, the last 6 inches of compacted fill will consist of topsoil or an approved soil which will support a turf growth after fertilizing and seeding. Settlement or other damage that occurs prior to acceptance of this work shall be repaired and grades satisfactorily re-established.
- F. Quality Assurance: The CONTRACTOR will be responsible for and shall repair any settlement in the backfill or pavement for a period of one year after completion of the work.

3.07 SITE RESTORATION

- A. Replacement of Property: The CONTRACTOR shall restore all pavement, sidewalks, curbing, gutter, fences, poles, culverts, utilities or other such property and surface structures removed or disturbed as a part of the work to a condition equal to that before the work began.
- B. Pavement Repair and Replacement: Pavement, if disturbed, shall be repaired or replaced.
- C. Cleanup: The CONTRACTOR shall at all times keep the site cleaned to the satisfaction of the Resident Project Representative. In all cases, he shall "broom" the surfaces of paved streets immediately following backfilling. All surplus materials shall be removed and disposed of from the site of the work unless directed otherwise by the ENGINEER. Where material is placed on pavement, a layer of stone dust or sand shall be applied first to facilitate clean-up.

END OF SECTION

SECTION 33 03 00
UTILITY PIPE AND MATERIALS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: The work in this section shall include the furnishing, installation, and testing of all pipe, fittings related solely to the extension of the fire service line into the basement area of the building.
- B. Related Sections: Additional Sections of the Documents which are referenced in this Section Include:
 - 1. Section 01 33 00 - Submittal Procedures
 - 2. Section 01 66 00 – Product Delivery, Storage, and Handling Requirements
 - 3. Section 31 23 33- Trenching and Backfilling
 - 4. Section 33 10 00 - Water Utilities

1.02 REFERENCES

- A. General: The Work shall comply with the most recent or tentative standards as published at the date of the Contract and as listed in the Specifications using abbreviations shown.
- C. American Society for Testing and Materials (ASTM):
 - 1. C1173 Standard Specification for Flexible Transition Couplings for Underground Piping Systems
- D. American National Standard Institute (ANSI)/American Water Works Association (AWWA):
 - 1. C 104 Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
 - 2. C 110 Standard for Ductile-Iron and Gray-Iron Fittings for Water
 - 3. C 111 Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
 - 4. C 150 Standard for Thickness Design of Ductile-Iron Pipe
 - 5. C 151 Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water
 - 6. C 153 Standard For Ductile-Iron Compact Fittings, for Water Service
 - 7. C 600 Standard for Installation of Ductile-Iron Water Mains and their Appurtenances.
- E. American National Standard Institute (ANSI)/American Society of Mechanical Engineers(ASME):
 - 1. B 16.1 Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250, and 800
 - 2. B 16.42 Ductile Iron Pipe Flanges and Flanged Fittings

1.03 QUALITY ASSURANCE

- A. Quality Assurance: All pipe and fittings shall be new, free from defects or contamination and shall, whenever possible, be the standard product of a single manufacturer.
- B. Manufacturers Limitations: Products used in the work of this section shall be manufactured in the U.S. where possible by manufacturers regularly engaged in production of similar items.

1.04 SUBMITTALS

- A. General: Submittals shall be in accordance with Section 01 33 00 - Submittal Procedures.

1.05 DELIVERY, STORAGE AND HANDLING

- A. General: Delivery, Storage, and Handling shall be in accordance with Section 01 66 00 – Product Delivery, Storage, and Handling Requirements.

PART 2 PRODUCTS

2.01 PIPE

- A. Ductile Iron Pipe: Ductile iron pipe (DIP) and fittings shall meet or exceed the following requirements:

1. Pipe and fittings shall be the diameter shown on the plans.
2. Pressure Class 350 in accordance with AWWA C150.
3. Cast in accordance with AWWA C151.
4. Cement lining in accordance with AWWA C104 except on air piping or as otherwise noted.
5. All lines below grade shall be constructed with push-on joints and mechanical joints at fittings.
6. Rubber gasket joints shall be in accordance with AWWA C111.

2.02 FITTINGS

- A. Ductile Iron Fittings: Ductile iron fittings shall conform to AWWA C104, AWWA C110 for standard body and AWWA C153 for compact body fittings, and meet the following requirements:
 1. Buried fittings shall be mechanical joint and supplied with the proper adapter and/or transition gasket for use with PVC pipe.
 2. Flanged fittings shall be 125 pound fittings meeting ANSI/ASME B 16.42, or meeting ANSI/ASME B 16.1 for fittings not available in ductile iron.

PART 3 EXECUTION

3.01 EXCAVATION, BACKFILLING AND COMPACTION

- A. General: Trench excavation shall be in accordance with Section 31 23 33 – Trenching and Backfilling.

3.02 SEPARATION OF WATER AND SEWER LINES

- A. Parallel Installation:
 1. Normal conditions – Water mains shall be separated at least 10 feet horizontally from a sewer or sewer manhole. The distance shall be measured edge-to-edge.
 2. Unusual conditions – When local conditions prevent a horizontal separation of 10 feet, the CONTRACTOR shall notify the ENGINEER. The ENGINEER, after consultation with the Virginia Department of Health, shall provide special instructions for construction within the area of conflict. In some cases, if authorized by the ENGINEER, the 10 foot separation requirement may be waived provided that:
 - a. The bottom (invert) of the water main shall be at least 18 inches above the top (crown) of the sewer.
 - b. Where this vertical separation cannot be obtained, the sewer shall be constructed of AWWA approved water pipe, pressure tested in place to 30 psi without leakage prior to backfilling.
 - c. The sewer manhole shall be of watertight construction and tested in place.

3.03 INSTALLATION OF PIPE AND FITTINGS

- A. General: No valve, hydrant, or other appurtenance on existing water lines shall be opened or closed for any purpose by the CONTRACTOR. Any opening or closing of valves, hydrants, whatsoever shall be by the OWNER of the utilities only. The CONTRACTOR shall notify the OWNER of the utilities at least 24 hours prior to the need to open or close any appurtenance, except in emergencies, at which time the OWNER of the utilities shall be notified immediately.
- B. Handling: Pipe shall be placed in the trench in such a manner as to prevent damage to pipe and protective coatings and linings. Under no circumstances shall pipe be dropped or dumped into the trench. As the temperature approaches or drops below freezing, extra care shall be used in handling pipe.
- C. Cleaning: Every precaution shall be taken to prevent foreign material from entering the pipe while it is being placed in the line. Spigot and bell ends of pipe and gaskets shall be cleaned and lubricated according to manufacturer's instructions. At times when pipe laying is not in progress, the open ends of the pipe shall be closed by a watertight plug.

- D. Cutting: Pipe shall be cut in a neat and workmanlike manner without damage to the pipe. Unless otherwise authorized by the ENGINEER, cutting shall be done by means of approved type of mechanical cutters. Wheel cutters shall be used when practicable.
- E. Direction of Laying: All pipe shall be laid with bell ends facing in the direction of laying unless otherwise directed by the ENGINEER. Where pipe is laid on a grade of 10 percent or greater, or for gravity pipe systems, the laying shall start at bottom and shall proceed upward with the bell ends of pipe upgrade. Each piece of pipe shall be laid true to line and grade. The bottom of the trench shall be smoothly graded and bell holes provided so that the trench bottom provides uniform support to the barrel of the pipe when in final position. Adjustments to line or grade shall be made by removing or adding granular material under the barrel. In no case shall wedges or blocks be used under the body of the pipe. The pipe shall be pushed fully "home" by hand, with a bar and block of wood to cushion the bell, or other methods for large diameter pipe.
- F. Bedding: Bedding of pipe shall be placed to the depth shown on the plans or standard details and shall be compacted to specified density. Bedding of ductile iron and PVC pressure pipe will not be required except when used as gravity sewer, in rock excavation, or as shown on the plans.
- G. Lateral Connections: In-Line wyes and tees for cleanouts/laterals shall be installed during initial construction.
- H. Installation of Fittings: Fittings shall be installed with the same care that mainline pipe is installed. Caps or plugs shall be braced to prevent blow off during testing.
 - 1. Ductile iron fittings used on Force main and Other Pressure Pipe shall be supported in accordance with Part 2 of this Section.
- I. Use fittings and gaskets manufactured by the pipe manufacturer designed specifically for connection to, and repair of, Ultra-Rib pipe. Installation of fittings and repairs to pipe must be in accordance with the Manufacturer's procedures and recommendations.
- J. Jointing:
 - 1. Mechanical Joints: When installing mechanical joint (MJ) ductile iron pipe, the socket, spigot end and rubber gasket shall be thoroughly washed with soapy water to remove any grease or grit that might damage the gasket. In making up the joint, the gland for MJ pipe followed by the gasket, shall be placed over the plain end of the pipe and inserted into the socket. The gasket shall be pushed into position without excessive force and evenly seated in the socket of the pipe bell, and the gland for MJ pipe, then moved into position against the face of the rubber gasket.

3.04 PIPELINE TESTING

- A. General: Testing of pipe lines and structures shall be at the CONTRACTOR's expense. Any defects or leaks shall be repaired or replaced at the CONTRACTOR's expense. Water for the first test shall be provided by the OWNER. Subsequent water for tests shall be at the CONTRACTOR's expense.
- B. Pressure Testing:
 - 1. Test Section: Pressure and leakage testing shall be conducted on each valved section (between adjacent valves) of pressure pipeline. Force mains and other pressure pipe without valves shall be tested in sections not to exceed 5,000 feet.
 - 2. Procedures: Pressurization, air removal, and allowances shall be in accordance with AWWA C 600, Section 5 or AWWA C 605, Section 7 as appropriate for pipe used. Testing shall begin on the first valved section of line within ten days after its completion. The pressure and leakage tests shall be conducted concurrently for a duration of two hours. Water main testing through fire hydrants shall not be permitted. The valved section of the pipe under consideration shall be slowly filled with water and brought to the specified pressure by means of a pump. Before supplying the specified test pressure, all air shall be expelled from the pipe. Testing shall not begin until at least seven days after the last concrete anchor has been poured on the section of line being tested (if high early concrete is used, two days). The ENGINEER or Resident Project Representative shall

observe all leakage tests. If the pipe fails to meet test requirements, all leaks shall be repaired and defective pipe replaced at the CONTRACTOR's expense. The test shall be repeated until satisfactory results are obtained. The CONTRACTOR shall be charged for all retests at the normal rates for inspection services.

3. Test Pressures: Test pressure shall be 150 psi as measured at the lowest point in that test section, unless otherwise noted. For test pressures less than 200 psi, CONTRACTOR shall demonstrate that there is no significant pressure (other than static) in the adjacent sections of pipeline to the one being tested.
4. Leakage: Leakage shall be defined as the quantity of water that must be supplied into the valved pipe section to maintain pressure within 5 psi of the specified test pressure. The allowable leakage shall not exceed the values given in table labeled Allowable Leakage Per 1,000 Feet of Pipeline.

END OF SECTION



October 30, 2009

Ervin Construction
Nick Sarbelis
1830 Plaza Drive
Winchester, VA 22601

Ref: Asbestos Inspection Report– Taylor Hotel South Loudoun St, Winchester, VA

Dear Mr. Sarbelis:

On October 26, 2009, at your request, Bruce Sigurdson and Heather Anderson conducted an asbestos inspection according to NESHAP guidelines, in accessible areas only, of the above referenced property. The building area was inspected due to anticipated renovations and demolition. The building consisted of a commercial building formally known as the Taylor Hotel.

Suspect materials sampled were, drywall, plaster, roof materials, misc debris, floor tile, and mastic. Samples were properly labeled and sent to a certified lab for analysis using PLM method.

The black roof material tested positive for asbestos.

The material that tested positive for asbestos does not have to be removed as long as it is not disturbed during renovation.

Attached are the sample log, lab analysis, and the chain of custody.

Sincerely,

A handwritten signature in black ink, appearing to read "Bruce Sigurdson", is written over a light blue horizontal line.

Bruce Sigurdson
VA License # 3303 002067

Winchester Environmental Consultants, Inc.

104 W. Cork Street, Winchester, VA 22601

540-877-9420 Business 540-877-9495 Fax

weci@visuallink.com e-mail

SAMPLE LOG

Ref: Taylor Hotel; South Loudoun St, Winchester, VA

Sample Date: October 26, 2009

Sample ID	Location/ Description	Asbestos Results Positive/Negative	Y/N Friable/ Nonfriable
SM-1	Single Story / Plaster walls	Negative	
SM-2	Single Story / Plaster walls	Negative	
SM-3	Single Story / Plaster walls	Negative	
SM-4	Single Story / Plaster walls	Negative	
SM-5	Single Story / Plaster walls	Negative	
SM-5	Single Story / Plaster walls	Negative	
SM-6	Single Story / Plaster walls	Negative	
SM-7	Single Story / Plaster walls	Negative	
SM-8	Single Story / Plaster walls	Positive <1%	Y
SM-9	Single Story / Plaster walls	Negative	
SM-9	Single Story / Plaster walls	Negative	
MM-1	Single Story / Black roof material	Positive 30%	N
MM-2	Single Story / Black roof material	Na/ps	
MM-3	Single Story / Black roof material	Na/ps	
MM-4	Single Story Debris Pile (skim coat)	Negative	
MM-4	Single Story Debris Pile (base coat)	Negative	
MM-5	Single Story Debris Pile (skim coat)	Negative	
MM-5	Single Story Debris Pile (base coat)	Negative	
MM-6	Single Story Debris Pile (skim coat)	Negative	
MM-6	Single Story Debris Pile (base coat)	Negative	
MM-7	Single Story Debris Pile (skim coat)	Negative	
MM-7	Single Story Debris Pile (base coat)	Negative	
MM-8	Single Story/ Green floor (Tile)	Negative	
MM-8	Single Story/ Green floor (grout)	Negative	
MM-9	Single Story/ 6" Square tile (tile)	Negative	
MM-9	Single Story/ 6" Square tile (grout)	Negative	
MM-10	Single Story/ 12x12 floor tile	Negative	
MM-10	Single Story/ 12x12 floor tile mastic	Negative	
MM-11	Single Story/ 12x12 floor tile	Negative	
MM-11	Single Story/ 12x12 floor tile mastic	Negative	
SM-10	Colonial Area 1 st level Plaster Walls (skim coat)	Negative	
SM-10	Colonial Area 1 st level Plaster Walls (base coat)	Negative	
SM-11	Colonial Area 1 st level Plaster Walls (skim coat)	Negative	
SM-11	Colonial Area 1 st level Plaster Walls (base coat)	Negative	

Sample ID	Location/ Description	Asbestos Results Positive/Negative	Y/N Friable/ Nonfriable
SM-12	Colonial Area 1 st level Plaster Walls (skim coat)	Negative	
SM-12	Colonial Area 1 st level Plaster Walls (base coat)	Negative	
SM-13	Colonial Area 1 st level Plaster Walls (skim coat)	Negative	
SM-13	Colonial Area 1 st level Plaster Walls (base coat)	Negative	
SM-14	Colonial Area 1 st level Plaster Walls (skim coat)	Negative	
SM-14	Colonial Area 1 st level Plaster Walls (base coat)	Negative	
SM-15	Colonial Area 1 st level Plaster Walls (skim coat)	Negative	
SM-15	Colonial Area 1 st level Plaster Walls (base coat)	Negative	
SM-16	Colonial Area 1 st level Plaster Walls	Negative	
MM-12	Colonial 1 st level 12x12 Floor tile white	Negative	
MM-12	Colonial 1 st level 12x12 Floor tile white (mastic)	Negative	
MM-13	Colonial 1 st level 12x12 Floor tile white	Negative	
MM-13	Colonial 1 st level 12x12 Floor tile white (mastic)	Negative	
MM-14	Colonial Stairway Kick strip	Negative	
MM-14	Colonial Stairway Kick strip (mastic)	Negative	
MM-15	Colonial Stairway Stair tread	Negative	
MM-16	2 nd level Colonial Red Floor Tile	Negative	
MM-16	2 nd level Colonial Red Floor Tile (mastic)	Negative	
MM-17	2 nd level Colonial Green Floor Tile	Negative	
MM-17	2 nd level Colonial Green Floor Tile (mastic)	Negative	
MM-18	2 nd level Colonial ceiling tile	Negative	
MM-19	3 rd level Colonial Drywall	Negative	
MM-19	3 rd level Colonial Joint Compound	Negative	
MM-20	3 rd level Colonial Drywall	Negative	
MM-20	3 rd level Colonial Joint Compound	Negative	
MM-21	3 rd level Colonial Drywall	Negative	
MM-21	3 rd level Colonial Joint Compound	Negative	
SM-17	Taylor Hotel 2 nd level Plaster w&c (skim coat)	Negative	
SM-17	Taylor Hotel 2 nd level Plaster w&c (base coat)	Negative	
SM-18	Taylor Hotel 2 nd level Plaster w&c (skim coat)	Negative	
SM-18	Taylor Hotel 2 nd level Plaster w&c (base coat)	Negative	
SM-19	Taylor Hotel 2 nd level Plaster w&c (skim coat)	Negative	
SM-19	Taylor Hotel 2 nd level Plaster w&c (base coat)	Negative	
SM-20	Taylor Hotel 2 nd level Plaster w&c (skim coat)	Negative	
SM-20	Taylor Hotel 2 nd level Plaster w&c (base coat)	Negative	
SM-21	Taylor Hotel 2 nd level Plaster w&c (skim coat)	Negative	
SM-21	Taylor Hotel 2 nd level Plaster w&c (base coat)	Negative	
SM-22	Taylor Hotel 2 nd level Plaster w&c (skim coat)	Negative	
SM-22	Taylor Hotel 2 nd level Plaster w&c (base coat)	Negative	
SM-23	Taylor Hotel 2 nd level Plaster w&c (skim coat)	Negative	
SM-23	Taylor Hotel 2 nd level Plaster w&c (base coat)	Negative	
SM-24	Taylor Hotel 2 nd level Plaster w&c (skim coat)	Negative	
SM-24	Taylor Hotel 2 nd level Plaster w&c (base coat)	Negative	
SM-25	Taylor Hotel 2 nd level Plaster w&c (skim coat)	Negative	
SM-25	Taylor Hotel 2 nd level Plaster w&c (base coat)	Negative	

Sample ID	Location/ Description	Asbestos Results Positive/Negative	Y/N Friable/ Nonfriable
SM-26	3 rd level Taylor Hotel E. Plaster w&c (skim coat)	Negative	
SM-26	3 rd level Taylor Hotel E. Plaster w&c (base coat)	Negative	
SM-27	3 rd level Taylor Hotel E. Plaster walls & ceilings	Negative	
SM-28	3 rd level Taylor Hotel E. Plaster walls & ceilings	Negative	
MM-22	1st level Taylor Hotel Tar floor material	Positive <1%	N
MM-23	1st level Taylor Hotel Tar floor material	Positive <1%	N
SM-29	3 rd level Taylor Hotel E. Plaster w&c (skim coat)	Negative	
SM-29	3 rd level Taylor Hotel E. Plaster w&c (base coat)	Negative	
SM-30	3 rd level Taylor Hotel E. Plaster w&c (skim coat)	Negative	
SM-30	3 rd level Taylor Hotel E. Plaster w&c (base coat)	Negative	
SM-31	3 rd level Taylor Hotel W. Plaster w&c (skim coat)	Negative	
SM-31	3 rd level Taylor Hotel W. Plaster w&c (base coat)	Negative	
SM-32	3 rd level Taylor Hotel W. Plaster w&c (skim coat)	Negative	
SM-32	3 rd level Taylor Hotel W. Plaster w&c (base coat)	Negative	
SM-33	3 rd level Taylor Hotel W. Plaster w&c (skim coat)	Negative	
SM-33	3 rd level Taylor Hotel W. Plaster w&c (base coat)	Negative	
SM-34	3 rd level Taylor Hotel W. Plaster w&c (skim coat)	Negative	
SM-34	3 rd level Taylor Hotel W. Plaster w&c (base coat)	Negative	
SM-35	3 rd level Taylor Hotel W. Plaster w&c (skim coat)	Negative	
SM-35	3 rd level Taylor Hotel W. Plaster w&c (base coat)	Negative	
SM-37	1 st level Taylor Hotel Plaster w&c (skim coat)	Negative	
SM-38	1 st level Taylor Hotel Plaster w&c (base coat)	Negative	
SM-39	1 st level Taylor Hotel Plaster w&c (skim coat)	Negative	
SM-39	1 st level Taylor Hotel Plaster w&c (base coat)	Negative	
SM-40	1 st level Taylor Hotel Plaster w&c (skim coat)	Negative	
SM-40	1 st level Taylor Hotel Plaster w&c (base coat)	Negative	
SM-41	1 st level Taylor Hotel Plaster w&c (skim coat)	Negative	
SM-41	1 st level Taylor Hotel Plaster w&c (base coat)	Negative	
SM-42	1 st level Taylor Hotel Plaster walls & ceilings	Negative	
SM-43	1 st level Taylor Hotel Plaster walls & ceilings	Negative	
SM-44	1 st level Taylor Hotel Plaster w&c (skim coat)	Negative	
SM-44	1 st level Taylor Hotel Plaster w&c (base coat)	Negative	
SM-45	1 st level Taylor Hotel Plaster w&c (skim coat)	Negative	
SM-45	1 st level Taylor Hotel Plaster w&c (base coat)	Negative	
SM-47	2 nd level T.H. Theatre View Plaster w&c (skim coat)	Negative	
SM-47	2 nd level T.H. Theatre View Plaster w&c (base coat)	Negative	
SM-48	2 nd level T.H. Theatre View Plaster w&c (skim coat)	Negative	
SM-48	2 nd level T.H. Theatre View Plaster w&c (base coat)	Negative	
SM-49	2 nd level T.H. Theatre View Plaster w&c (skim coat)	Negative	
SM-49	2 nd level T.H. Theatre View Plaster w&c (base coat)	Negative	
SM-50	2 nd level T.H. Theatre View Plaster w&c (skim coat)	Negative	
SM-50	2 nd level T.H. Theatre View Plaster w&c (base coat)	Negative	
SM-51	2 nd level T.H. Theatre View Plaster w&c (skim coat)	Negative	
SM-51	2 nd level T.H. Theatre View Plaster w&c (base coat)	Negative	
SM-52	2 nd level T.H. Theatre View Plaster w&c (skim coat)	Negative	

Sample ID	Location/ Description	Asbestos Results Positive/Negative	Y/N Friable/ Nonfriable
SM-52	2 nd level T.H. Theatre View Plaster w&c (base coat)	Negative	
SM-53	2 nd level T.H. Theatre View Plaster w&c (skim coat)	Negative	
SM-53	2 nd level T.H. Theatre View Plaster w&c (base coat)	Negative	
SM-54	2 nd level T.H. Theatre View Plaster w&c (skim coat)	Negative	
SM-54	2 nd level T.H. Theatre View Plaster w&c (base coat)	Negative	
SM-55	2 nd level T.H. Theatre View Plaster w&c (skim coat)	Negative	
SM-55	2 nd level T.H. Theatre View Plaster w&c (base coat)	Negative	
SM-56	2 nd level T.H. Theatre View Plaster w&c (skim coat)	Negative	
SM-56	2 nd level T.H. Theatre View Plaster w&c (base coat)	Negative	
MM-24	2 nd level Taylor Hotel Theatre View Stair tread	Negative	
MM-25	2 nd level Taylor Hotel Theatre Area roof floor paper	Negative	

Positive asbestos material is defined by the CVES method when there is 1% or greater volume of asbestos, by weight; in the sample. Prior to any renovation or demolition occurring at the site, which would disturb any positively identified material, abatement should occur utilizing a licensed abatement contractor. Upon removal of the material, a manifest of disposal should be provided in the final report.

Under state and federal regulations, you are not required to remove the positive material unless it has the potential to be disturbed and subsequently pose potential health problems or prior to renovation or demolition activities in the areas with the asbestos materials.

A total of 135 lab analysis was conducted on the suspected material samples. The lab reports and chain of custody are attached.



Please Reply To:

AmeriSci Richmond

13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

FACSIMILE TELECOPY TRANSMISSION

To: Bruce Sigurdson Winchester Environmental Consultants, Inc.	From: William M. Dunstan
Fax #:	AmeriSci Job #: 109101635
	Subject: PLM 3 day Results
Email: labresults@weci.biz, Bruce_Sigurdson@weci.biz	Client Project: Taylor Hotel; 119-129 South Loud. VA

Date: Thursday, October 29, 2009	Number of Pages: <u>30</u>
Time: 18:25:55	(including cover sheet)
Comments:	

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PLM Bulk Asbestos Report

Winchester Environmental Consultants,
Attn: Bruce Sigurdson
104 West Cork Street

Winchester, VA 22601

Date Received 10/27/09

Date Examined 10/28/09

AmeriSci Job # 109101635

P.O. #

Page 1 **of** 24

RE: Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-1 1 Location: Single Story Area; Plaster Walls/Etc	109101635-01	No	NAD (by CVES) by William M. Dunstan on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %			
SM-2 1 Location: Single Story Area (Wall); Plaster Walls/Etc	109101635-02	No	NAD (by CVES) by William M. Dunstan on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %			
SM-3 1 Location: Single Story Area (Rubble Pile); Plaster Walls/Etc	109101635-03	No	NAD (by CVES) by William M. Dunstan on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material Asbestos Types: Other Material: Animal hair 2 %, Non-fibrous 98 %			
SM-4 1 Location: Single Story Area (Rubble Pile); Plaster Walls/Etc	109101635-04	No	NAD (by CVES) by William M. Dunstan on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material Asbestos Types: Other Material: Animal hair 2 %, Non-fibrous 98 %			
SM-5 1 Location: Single Story Area; Plaster Walls/Etc	109101635-05.1	No	NAD (by CVES) by William M. Dunstan on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			

Client Name: Winchester Environmental Consultants, Inc.

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-5 1	109101635-05.2 Location: Single Story Area; Plaster Walls/Etc	No	NAD (by CVES) by William M. Dunstan on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-6 1	109101635-06 Location: Single Story Area; Plaster Walls/Etc	No	NAD (by CVES) by William M. Dunstan on 10/28/09
Analyst Description: Lt. Gray, Heterogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Cellulose Trace, Non-fibrous 100 %			
SM-7 1	109101635-07 Location: Single Story Area; Plaster Walls/Etc	No	NAD (by CVES) by William M. Dunstan on 10/28/09
Analyst Description: Lt. Gray, Heterogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Cellulose Trace, Non-fibrous 100 %			
SM-8 1	109101635-08 Location: Single Story Area; Plaster Walls/Etc	Yes	Trace (<1 %) (by CVES) by William M. Dunstan on 10/28/09
Analyst Description: Lt. Brown, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material Asbestos Types: Chrysotile <1. % Other Material: Animal hair 2 %, Non-fibrous 98 %			
SM-9 1	109101635-09.1 Location: Single Story Area; Plaster Walls/Etc	No	NAD (by CVES) by William M. Dunstan on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-9 1	109101635-09.2 Location: Single Story Area; Plaster Walls/Etc	No	NAD (by CVES) by William M. Dunstan on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Cellulose Trace, Non-fibrous 100 %			

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
MM-1 2	109101635-10 Location: Single Story Ruble Pile (Roof Material); Black Roof Material	Yes	30 % (by CVES) by William M. Dunstan on 10/28/09
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material Asbestos Types: Chrysotile 30.0 % Other Material: Non-fibrous 70 %			
MM-2 2	109101635-11 Location: Single Story Ruble Pile (Roof Material); Black Roof Material		NA/PS
Analyst Description: Bulk Material Asbestos Types: Other Material:			
MM-3 2	109101635-12 Location: Single Story Ruble Pile (Roof Material); Black Roof Material		NA/PS
Analyst Description: Bulk Material Asbestos Types: Other Material:			
MM-4 3	109101635-13.1 Location: Misc. Debris Pile On Single Story; Misc. Debris	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
MM-4 3	109101635-13.2 Location: Misc. Debris Pile On Single Story; Misc. Debris	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
MM-5 3	109101635-14.1 Location: Misc. Debris Pile On Single Story; Misc. Debris	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
MM-5 3	109101635-14.2 Location: Misc. Debris Pile On Single Story; Misc. Debris	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			
MM-6 3	109101635-15.1 Location: Misc. Debris Pile On Single Story; Misc. Debris	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
MM-6 3	109101635-15.2 Location: Misc. Debris Pile On Single Story; Misc. Debris	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			
MM-7 3	109101635-16.1 Location: Misc. Debris Pile On Single Story; Misc. Debris	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
MM-7 3	109101635-16.2 Location: Misc. Debris Pile On Single Story; Misc. Debris	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			
MM-8 4	109101635-17L1 Location: Single Story (By Front Mall Entrance); Green Floor Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Green, Heterogeneous, Non-Fibrous, Ceramic Tile Asbestos Types: Other Material: Non-fibrous 100 %			

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
MM-8 4	109101635-17L2 Location: Single Story (By Front Mall Entrance); Green Floor Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Grout Asbestos Types: Other Material: Non-fibrous 100 %			
MM-9 5	109101635-18L1 Location: Single Story Area By Ladies Alley Entr.; 6" Square Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Ceramic Tile Asbestos Types: Other Material: Non-fibrous 100 %			
MM-9 5	109101635-18L2 Location: Single Story Area By Ladies Alley Entr.; 6" Square Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Grout Asbestos Types: Other Material: Non-fibrous 100 %			
MM-10 6	109101635-19L1 Location: Single Story Area By Ladies Alley Entr.; 12x12 Floor Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Floor Tile Asbestos Types: Other Material: Non-fibrous 100 %			
MM-10 6	109101635-19L2 Location: Single Story Area By Ladies Alley Entr.; 12x12 Floor Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Mastic Asbestos Types: Other Material: Non-fibrous 100 %			
MM-11 6	109101635-20L1 Location: Single Story Area By Ladies Alley Entr.; 12x12 Floor Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Floor Tile Asbestos Types: Other Material: Non-fibrous 100 %			

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
MM-11 6	109101635-20L2 Location: Single Story Area By Ladies Alley Entr.; 12x12 Floor Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Mastic Asbestos Types: Other Material: Non-fibrous 100 %			
SM-10 7	109101635-21.1 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-10 7	109101635-21.2 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Cellulose Trace, Non-fibrous 100 %			
SM-11 7	109101635-22.1 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-11 7	109101635-22.2 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Cellulose Trace, Non-fibrous 100 %			
SM-12 7	109101635-23.1 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-12 7	109101635-23.2 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Cellulose Trace, Non-fibrous 100 %			
SM-13 7	109101635-24.1 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-13 7	109101635-24.2 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Lt. Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-14 7	109101635-25.1 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-14 7	109101635-25.2 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Cellulose Trace, Non-fibrous 100 %			
SM-15 7	109101635-26.1 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-15 7	109101635-26.2 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Cellulose Trace, Non-fibrous 100 %			
SM-16 7	109101635-27 Location: Colonial Area 1st Level; Plaster Walls	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %			
MM-12 8	109101635-28L1 Location: Colonial 1st Level; 12x12 Floor Tile White	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Floor Tile Asbestos Types: Other Material: Non-fibrous 100 %			
MM-12 8	109101635-28L2 Location: Colonial 1st Level; 12x12 Floor Tile White	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Mastic Asbestos Types: Other Material: Non-fibrous 100 %			
MM-13 8	109101635-29L1 Location: Colonial 1st Level; 12x12 Floor Tile White	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Floor Tile Asbestos Types: Other Material: Non-fibrous 100 %			
MM-13 8	109101635-29L2 Location: Colonial 1st Level; 12x12 Floor Tile White	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Mastic Asbestos Types: Other Material: Non-fibrous 100 %			

Client Name: Winchester Environmental Consultants, Inc.

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
MM-14 9	109101635-30L1 Location: Colonial Stairway; Kickstrip	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Black, Heterogeneous, Non-Fibrous, Kick Strip Asbestos Types: Other Material: Non-fibrous 100 %			
MM-14 9	109101635-30L2 Location: Colonial Stairway; Kickstrip	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Cream, Heterogeneous, Non-Fibrous, Mastic Asbestos Types: Other Material: Non-fibrous 100 %			
MM-15 10	109101635-31 Location: Colonial Stairway; Stairtread	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %			
MM-16 11	109101635-32L1 Location: 2nd Level Colonial; Red Floor Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Red, Heterogeneous, Non-Fibrous, Floor Tile Asbestos Types: Other Material: Non-fibrous 100 %			
MM-16 11	109101635-32L2 Location: 2nd Level Colonial; Red Floor Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Mastic Asbestos Types: Other Material: Non-fibrous 100 %			
MM-17 12	109101635-33L1 Location: 2nd Level Colonial; Green Floor Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Green, Heterogeneous, Non-Fibrous, Floor Tile Asbestos Types: Other Material: Non-fibrous 100 %			

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Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
MM-17 12	109101635-33L2 Location: 2nd Level Colonial; Green Floor Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Mastic Asbestos Types: Other Material: Non-fibrous 100 %			
MM-18 13	109101635-34 Location: 2nd Level Colonial; Ceiling Tile	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Lt. Gray, Heterogeneous, Fibrous, Bulk Material Asbestos Types: Other Material: Cellulose 30 %, Fibrous glass 30 %, Non-fibrous 40 %			
MM-19 13	109101635-35.1 Location: 3rd Level Colonial; Drywall & Joint Compound	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Lt. Gray, Heterogeneous, Non-Fibrous, Drywall Asbestos Types: Other Material: Cellulose 5 %, Non-fibrous 95 %			
MM-19 13	109101635-35.2 Location: 3rd Level Colonial; Drywall & Joint Compound	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Joint Compound Asbestos Types: Other Material: Non-fibrous 100 %			
MM-20 13	109101635-36.1 Location: 3rd Level Colonial; Drywall & Joint Compound	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Lt. Gray, Heterogeneous, Non-Fibrous, Drywall Asbestos Types: Other Material: Cellulose 5 %, Non-fibrous 95 %			
MM-20 13	109101635-36.2 Location: 3rd Level Colonial; Drywall & Joint Compound	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Joint Compound Asbestos Types: Other Material: Non-fibrous 100 %			

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Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
MM-21 13	109101635-37.1 Location: 3rd Level Colonial; Drywall & Joint Compound	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Lt. Gray, Heterogeneous, Non-Fibrous, Drywall Asbestos Types: Other Material: Cellulose 5 %, Non-fibrous 95 %			
MM-21 13	109101635-37.2 Location: 3rd Level Colonial; Drywall & Joint Compound	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Joint Compound Asbestos Types: Other Material: Non-fibrous 100 %			
SM-17 14	109101635-38.1 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-17 14	109101635-38.2 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair 2 %, Non-fibrous 98 %			
SM-18 14	109101635-39.1 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-18 14	109101635-39.2 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			

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Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-19 14	109101635-40.1 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-19 14	109101635-40.2 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			
SM-20 14	109101635-41.1 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-20 14	109101635-41.2 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			
SM-21 14	109101635-42.1 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-21 14	109101635-42.2 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-22 14	109101635-43.1 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-22 14	109101635-43.2 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			
SM-23 14	109101635-44.1 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-23 14	109101635-44.2 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			
SM-24 14	109101635-45.1 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-24 14	109101635-45.2 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			

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Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-25 14	109101635-46.1 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-25 14	109101635-46.2 Location: Taylor Hotel 2nd Level; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair 2 %, Non-fibrous 98 %			
SM-26 15	109101635-47.1 Location: 3rd Level Taylor Hotel East; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-26 15	109101635-47.2 Location: 3rd Level Taylor Hotel East; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair 2 %, Non-fibrous 98 %			
SM-27 15	109101635-48 Location: 3rd Level Taylor Hotel East; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material Asbestos Types: Other Material: Animal hair 2 %, Non-fibrous 98 %			
SM-28 15	109101635-49 Location: 3rd Level Taylor Hotel East; Plaster Walls and Ceilings	No	NAD (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material Asbestos Types: Other Material: Animal hair 2 %, Non-fibrous 98 %			

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Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
MM-22 16 Location: 1st Level Taylor Hotel; Tar Floor Material	109101635-50	Yes	Trace (<1 %) (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material Asbestos Types: Chrysotile <1. % Other Material: Cellulose 20 %, Non-fibrous 80 %			
MM-23 16 Location: 1st Level Taylor Hotel; Tar Floor Material	109101635-51	Yes	Trace (<1 %) (by CVES) by William M. Dunstan on 10/29/09
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material Asbestos Types: Chrysotile <1. % Other Material: Cellulose 20 %, Non-fibrous 80 %			
SM-29 15 Location: 3rd Level Taylor East; Plaster Walls/Ceiling	109101635-52.1	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-29 15 Location: 3rd Level Taylor East; Plaster Walls/Ceiling	109101635-52.2	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Lt. Brown, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair 2 %, Non-fibrous 98 %			
SM-30 15 Location: 3rd Level Taylor East; Plaster Walls/Ceiling	109101635-53.1	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-30 15 Location: 3rd Level Taylor East; Plaster Walls/Ceiling	109101635-53.2	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Lt. Brown, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair 2 %, Non-fibrous 98 %			

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-31 16	109101635-54.1 Location: 3rd Level Taylor West; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-31 16	109101635-54.2 Location: 3rd Level Taylor West; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Lt. Brown, Homogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair 2 %, Non-fibrous 98 %			
SM-32 16	109101635-55.1 Location: 3rd Level Taylor West; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-32 16	109101635-55.2 Location: 3rd Level Taylor West; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Lt. Brown, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair 2 %, Non-fibrous 98 %			
SM-33 16	109101635-56.1 Location: 3rd Level Taylor West; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-33 16	109101635-56.2 Location: 3rd Level Taylor West; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			

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Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-34 16	109101635-57.1 Location: 3rd Level Taylor West; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-34 16	109101635-57.2 Location: 3rd Level Taylor West; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			
SM-35 16	109101635-58.1 Location: 3rd Level Taylor West; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-35 16	109101635-58.2 Location: 3rd Level Taylor West; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Lt. Brown, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair 2 %, Cellulose Trace, Non-fibrous 98 %			
SM-37 17	109101635-59 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 % Comment: Skim Coat Plaster only, No Base			

Client Name: Winchester Environmental Consultants, Inc.

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-38 17	109101635-60 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Cellulose Trace, Non-fibrous 100 % Comment: Base Coat Plaster only, No Skim Coat Plaster in Sample.			
SM-39 17	109101635-61.1 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-39 17	109101635-61.2 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Cellulose Trace, Non-fibrous 100 %			
SM-40 17	109101635-62.1 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-40 17	109101635-62.2 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Cellulose Trace, Non-fibrous 100 %			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-41 17	109101635-63.1 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-41 17	109101635-63.2 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Cellulose Trace, Non-fibrous 100 %			
SM-42 17	109101635-64 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %			
SM-43 17	109101635-65 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %			
SM-44 17	109101635-66.1 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-44 17	109101635-66.2 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-45 17	109101635-67.1 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-45 17	109101635-67.2 Location: 1st Level Taylor; Plaster Walls/Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Lt. Brown, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair 3 %, Non-fibrous 97 %			
SM-47 17	109101635-68.1 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-47 17	109101635-68.2 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			
SM-48 17	109101635-69.1 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-48 17	109101635-69.2 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair 3 %, Non-fibrous 97 %			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-49 17	109101635-70.1 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-49 17	109101635-70.2 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair 3 %, Non-fibrous 97 %			
SM-50 17	109101635-71.1 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-50 17	109101635-71.2 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair 3 %, Non-fibrous 97 %			
SM-51 17	109101635-72.1 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-51 17	109101635-72.2 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-52 17	109101635-73.1 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-52 17	109101635-73.2 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			
SM-53 17	109101635-74.1 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-53 17	109101635-74.2 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-54 17	109101635-75.1 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-54 17	109101635-75.2 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SM-55 17	109101635-76.1 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-55 17	109101635-76.2 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			
SM-56 17	109101635-77.1 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster) Asbestos Types: Other Material: Non-fibrous 100 %			
SM-56 17	109101635-77.2 Location: 2nd Level Taylor Theatre View Area; Plaster Walls & Ceilings	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Base Coat (Plaster) Asbestos Types: Other Material: Animal hair Trace, Non-fibrous 100 %			
MM-24 18	109101635-78 Location: 2nd Level Taylor Theatre View Area; Stairtread	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Black, Homogeneous, Fibrous, Bulk Material Asbestos Types: Other Material: Cellulose 30 %, Non-fibrous 70 %			
MM-25 19	109101635-79 Location: Roof/Floor of Theatre Area; Roofing Paper	No	NAD (by CVES) by Gordon T. Saleeby on 10/28/09
Analyst Description: Brown/Black, Homogeneous, Fibrous, Bulk Material Asbestos Types: Other Material: Cellulose 80 %, Non-fibrous 20 %			

Client Name: Winchester Environmental Consultants, Inc.

PLM Bulk Asbestos Report

Taylor Hotel; 119-129 South Loud. VA

Reporting Notes:

Analyzed by: William M. Dunstan William M. Dunstan Date 10/29/09
*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples (198.6 for NOB samples)(NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____

109101635

Relinquished By: Winchester Environmental ConsultantsDate/Time: 10/26/09 12:16

Received By: _____

Date/Time: _____

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Company: Winchester Environmental Consultants

Street Address: 104 W. Cork St

City: Winchester State: VA Zip: 22601

Phone: 540-877-9420 Fax: 540-877-9495

Cell: 540-336-4191 Fax: _____

E-mail: labresults@weci.biz Verbal Results: Y / N

Results to: WECL

Special Instructions or Comments: _____

AMERI Sci

BULK CHAIN OF CUSTODY

AMERI Sci RICHMOND

13635 GEMTO ROAD

MIDLOTHIAN, VA 23112

TOLL FREE: (800) 476-5227

PHONE: (804) 763-1200

FAX: (804) 763-1800

WWW.AMERISCI.COM

AmeriSci #:

Project: Taylor Hotel

Proj #:

Proj Address: 119-129 South Loud, Proj State: VA

Analysis: ☒ PLM; ☐ Positive Stop; ☐ TEM; ☐ NY ELAP PLM/TEM w/ NOB Prep.

ASTM Dust (Microvac) (Wipe); Qualitative: Other (describe in comments)

Turnaround Time: 3-day Material Type: Bulk Dust Water

Sampled By: Heather Anderson Date Sampled: 10/26/09

Bruce Sigurdson

Lab ID Field ID Location Sample Description (dust area) Homogenous Area

SM-1 Single story area

Plaster walls/etc

1

SM-2

(wall)

1

SM-3

(Rubble Area)

1

SM-4

(Rubble Area)

1

SM-5

(Rubble Area)

1

SM-6

(Rubble Area)

1

SM-7

(Rubble Area)

1

SM-8

(Rubble Area)

1

mm-1

Single story rubble pile (roof material)

Black roof material

2

mm-2

Single story rubble pile on single story

misc. debris

2

mm-3

Single story rubble pile on single story

misc. debris

2

mm-4

Single story rubble pile on single story

misc. debris

2

mm-5

Single story rubble pile on single story

misc. debris

2

mm-6

Single story rubble pile on single story

misc. debris

2

mm-7

Single story rubble pile on single story

misc. debris

2

mm-8


Single story rubble pile on single story

misc. debris

2

109101635

BULK CHAIN OF CUSTODY



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 AMERISCI RICHMOND

 13635 GEMTO ROAD

 MIDLOTHIAN, VA 23112

 Toll Free: (800) 476-5227

 Phone: (804) 763-1200

 Fax: (804) 763-1800

Relinquished By: Sheetal Shah Date/Time: 10/20/09 12:16

Received By: _____ Date/Time: _____

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: _____

Company: Winchester Environmental Consultants

Street Address: 104 W. Cork St

City: Winchester State: VA Zip: 22601

Phone: 540-877-9420 Fax: 540-877-9495

Cell: 540-336-4191 Fax: _____

E-mail: labresults@weci.biz

Verbal Results: Y / N

Results to: WECL

Special Instructions or Comments:

AmeriSci #:

Project: Taylor Hotel

Proj #:

Proj Mgr:

Proj Address:

Analysis: PLM

Positive Stop:

TEM:

Proj State: VA

NY ELAP PLM/TEM w/ NOB Prep.

ASTM Dust

(Microvac)

(Wipe):

Qualitative:

Other (describe in comments)

Turnaround Time: 3 day

Material Type:

Bulk

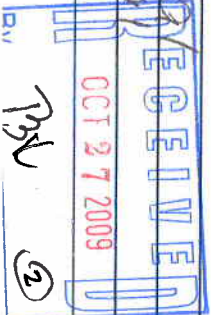
Dust

Water

Sampled By:

Bruce SpindlerDate Sampled: 10/20/09Maathea Anderson

Lab ID	Field ID	Location	Sample Description (dust area)	Homogenous Area
	mm-9	Single story area by back alley entrance	6" square tile	5
	mm-10		12x12 floor tile	6
	mm-11			6
	sm-10	Colonial area 1st level	plaster walls	7
	sm-11			7
	sm-12			7
	sm-13			7
	sm-14			7
	sm-15			7
	sm-16			7
	mm-12	Colonial 1st level	12x12 Floor tile white	8
	mm-13			8
	mm-14	Colonial stairway	kick strip	9
	mm-15		stair tread	10
	mm-16	2nd level Colonial	red floor tile	11
	mm-17	2nd level Colonial	green floor tile	12
	mm-18		ceiling tile	13



109101635

Relinquished By: Heath ShellDate/Time: 10/26/09 12:16

Received By: _____

Date/Time: _____

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____



BULK CHAIN OF CUSTODY
AMERISCI RICHMOND
 13635 GENTLE ROAD
 MIDLOTHIAN, VA 23112
 TOLL FREE: (800) 476-5227
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Company: Winchester Environmental Consultants

Street Address: 104 W. Cork St

City: Winchester State: VA Zip: 22601

Phone: 540-877-9420 Fax: 540-877-9495

Cell: 540-336-4191 Fax: _____

E-mail labresults@weci.biz

Verbal Results: Y / N

Results to: WECL

Special Instructions or Comments:

Project: Taylor Hotel

AmeriSci #:

Proj #:

Proj Mgr: _____

Proj State: _____

Analysis: ___ PLM; ___ Positive Stop; ___ TEM; ___ NY ELAP PLM/TEM w/ NOB Prep.

ASTM Dust ___ (Microvac) ___ (Wipe) ___ Qualitative: ___ Other (describe in comments)

Turnaround Time: _____

Material Type: ___ Bulk ___ Dust ___ Water

Sampled By: _____

Date Sampled: _____

Lab ID	Field ID	Location	Sample Description (dust area)	Homogenous Area
	mm-19	3rd level colonial	drywall & joint compound	13
	mm-20	↓ ↓ ↓	↓ ↓ ↓	↓
	mm-21	↓ ↓ ↓	↓ ↓ ↓	↓
	sm-17	Taylor Hotel 2nd level	Plaster walls on ceilings	14
	sm-18	↓ ↓ ↓	↓ ↓ ↓	↓
	sm-19	↓ ↓ ↓	↓ ↓ ↓	↓
	sm-20	↓ ↓ ↓	↓ ↓ ↓	↓
	sm-21	↓ ↓ ↓	↓ ↓ ↓	↓
	sm-22	↓ ↓ ↓	↓ ↓ ↓	↓
	sm-23	↓ ↓ ↓	↓ ↓ ↓	↓
	sm-24	↓ ↓ ↓	↓ ↓ ↓	↓
	sm-25	↓ ↓ ↓	↓ ↓ ↓	↓
	sm-26	3rd level Taylor Hotel East	Plaster walls on ceilings	15
	sm-27	↓ ↓ ↓	↓ ↓ ↓	↓
	sm-28	↓ ↓ ↓	↓ ↓ ↓	↓
	mm-22	1st level Taylor Hotel	Plaster material	16
	mm-23	↓ ↓ ↓	↓ ↓ ↓	↓

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Relinquished By: Heather Anderson Date/Time: 10/27/09 3:57

Received By: _____ Date/Time: _____

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: _____



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BULK CHAIN OF CUSTODY
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TOLL FREE: (800) 476-5227
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Company: Winchester Environmental Consultants

Street Address: 104 W. Cork St

City: Winchester State: VA Zip: 22601

Phone: 540-877-9420 Fax: 540-877-9495

Cell: _____ Fax: _____

E-mail: labresults@weci.biz Verbal Results: Y / N

Results to: WECI

Special Instructions or Comments: _____

Project: Taylor

Proj #:

Proj Mgr:

Proj State: VA

Analysis: ☒ PLM; ☐ Positive Stop; ☐ TEM; ☐ NY ELAP PLM/TEM w/ NOB Prep.

ASTM Dust (Microvac) (Wipe); Qualitative; Other (describe in comments)

Turnaround Time: 3 days Material Type: Bulk Dust Dust Water

Sampled By: Heather Anderson Date Sampled: 10/26/09

Lab ID	Field ID	Location	Sample Description (dust area)	Homogenous Area
	30	3rd level Taylor	Plaster walls/ceiling	15
	31	WEST	Plaster walls/ceiling	16
	32	WEST	Plaster walls/ceiling	16
	33	WEST	Plaster walls/ceiling	16
	34	WEST	Plaster walls/ceiling	16
	35	WEST	Plaster walls/ceiling	16
	36	WEST	Plaster walls/ceiling	16
	37	WEST	Plaster walls/ceiling	16
	38	1st level Taylor	Plaster walls/ceiling	17
	39	1st level Taylor	Plaster walls/ceiling	17
	40	1st level Taylor	Plaster walls/ceiling	17
	41	1st level Taylor	Plaster walls/ceiling	17
	42	1st level Taylor	Plaster walls/ceiling	17
	43	1st level Taylor	Plaster walls/ceiling	17
	44	1st level Taylor	Plaster walls/ceiling	17
	45	1st level Taylor	Plaster walls/ceiling	17

BULK CHAIN OF CUSTODY

AMERISCI RICHMOND
13635 GENTLE ROAD

MIDLOTHIAN, VA 23112

Toll Free: (800) 476-5227

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Fax: (804) 763-1800

WWW.AMERISCI.COM

Received By: _____	Date/Time: _____
Relinquished By: _____	Date/Time: _____
Received By: _____	Date/Time: _____

Company: **Winchester Environmental Consultants**

Street Address: 104 W. Cork St

City: Winchester State: VA Zip: 22601

Phone: 540-877-9420 Fax: 540-877-9495

Cell: 540-336-4191 Fax:

E-mail labresults@weci.biz Verbal Results: Y / N

Results to: WECI

Special Instructions or Comments:

Project: Taylor Hotel
Proj Mgr:

Project #:

Proj Address:

Proj State:

Analysis: ___ PLM; ___ Positive Stop; ___ TEM; ___ NY ELAP PLM/TEM w/ NOB Prep.

ASTM Dust	(Microvac)	(Wipe);	Qualitative;	Other (describe in comments)

Turnaround Time:

Material Type: Bulk Dust Water

Sampled By:

Date Sampled:

Lab ID	Field ID	Location	Sample Description (dust area)	Homogenous Area
SM-47		2nd level tailor theatre view area	plaster wall & ceiling	17
SM-48				
SM-49				
SM-50				
SM-51				
SM-52				
SM-53				
SM-54				
SM-55				
SM-56				
MM-24		2nd level tailor theatre view area	stage tread	18
MM-25		Roof/Floor of theatre area	Roofing paper	19

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134

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AmeriSci, Bulk CoC, rev May 20, 2009

PAGE 4 OF 4

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

EXPIRES ON

03-31-2010

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: 1 (804) 367-8500

NUMBER

3303 002067

VIRGINIA ASBESTOS LICENSE
INSPECTOR LICENSE

BRUCE I SIGURDSON
460 HEDRICK LANE

WINCHESTER, VA 22602



Jay W. DeBoer
Jay W. DeBoer, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER
THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

Asbestos Individual License

Asbestos Individual License

NAME: ANDERSON, HEATHER ROE

LICENSE TYPE: ASBESTOS INSPECTOR

LICENSE: 3303003513

CITY, STATE: WINCHESTER, VA

INITIAL CERTIFICATION DATE: OCTOBER 01, 2009

EXPIRATION DATE: OCTOBER 31, 2010